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J. RIDDLE GOFFE, PH.M., M.D.

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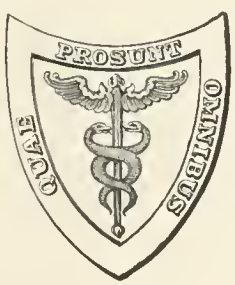

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ORIGINAL ARTICLES.

A COLLECTIVE INVESTIGATION OF YELLOW FEVER IN THE ISLAND OF CUBA.

BY D. T. LAINÉ, M.D.,
MAJOR AND BRIGADE SURGEON, U. S. V., HEADQUARTERS, DIVISION OF CUBA, HAVANA.

IN order to take advantage of the experience of Havana physicians on the subject of yellow fever, a set of ten questions was drawn up in this office and sent to the leading practitioners of the city. It is owing to the great kindness and courtesy of Drs. Santos Fernandez and Tomas Coronado, to whom are due sincere thanks, that so many replies were received. It will be observed that the questions were confined to points of practical interest. Thirty-five answers were received from physicians living in Havana, and two from Matanzas. All these were sent by men with large practices who live in the foci of infection of yellow fever and with sufficient experience in the treatment of this disease to give their personal opinions considerable weight.

We shall begin by analyzing in figures the opinions given, so that a reasonable criticism of the same can be found and we can come to a practical conclusion, if possible. This work was undertaken and accomplished by said physicians from a sense of courtesy and gratitude to Americans, in view of the special pains taken by them to study and modify the endemicity of this disease in Cuba, where it has wrought so much harm to its industries and inhabitants. Even the children, although natives, are none the less victims during their early age to the terrible scourge, which stands to-day as a barrier to immigration, for which so great a necessity exists in the island, from the mortality caused by war and from 400 years of criminal neglect of all sanitation.

1. What is, from your observation, the earliest period at which it is possible to make an accurate differential diagnosis of yellow fever, and on what do you base the diagnosis?

Three physicians claim that it is impossible to say precisely at what time the diagnosis can be made; seventeen claim that it can be made between the third and fourth days; fifteen between the first and third days. The diagnosis is based by the great majority on the symptoms which are common to yellow fever and which are present after the second day. Many draw attention to one or various symptoms; others give preference to the combination of symptoms if they are present in an individual who has recently arrived in the country, or to a native child who finds itself under the same conditions as a stranger.

The presence of mucine, the investigation of which has not been fully carried out, and albumin in the urine, which is apt to appear at the end of the second day, the characteristic remission which separates the first from the second period and which is noticeable between the second and fourth days of the disease, the icterus which appears on the third day, and the hemorrhages are the principal symptoms which carry conviction to the mind of the experienced practitioner as to the existence of yellow fever.

2. What do you consider the most pathognomonic symptoms of yellow fever?

Seventeen physicians are of the opinion that pathognomonic symptoms do not exist; eighteen accept not one symptom alone, but a number of them together as constituting pathognomism. The majority believe that the remission from the first period followed by the sudden elevation of temperature of the second period, in conjunction with albuminuria, icterus, and hemorrhages are the most typical symptoms of the disease. The physicians who accept a group of symptoms as constituting pathognomism express themselves as follows:

Remission from the first to the second period, albuminuria, icterus, hemorrhages; some add to the above black vomit and bloody evacuations (which should be put under the head of hemorrhagic symptoms), cephalalgia, rachialgia, congestion of the conjunctivæ, congestion of the face, which are nothing more than the phenomena which are proper to all infectious and acute febrile diseases, and which, although present in yellow fever are also common to many febrile conditions, and cannot be accepted as characteristic symptoms of the disease. The falling of the pulse, even if frequently observed, does not constitute, *per se*, a characteristic symptom of yellow fever, and it is more than likely dependent on one of its epiphenomena, biliary disturbances, which usually present themselves during the course of the fever, when the diagnosis has no longer the same relative value.

3. Given a case of chronic malarial fever, in which death occurs from an invasion of yellow fever, what will be the post-mortem appearance?

Twenty physicians express the opinion that the lesions of both diseases will be found; fifteen have never observed combinations of these two diseases and therefore can express no opinion. During the war and in the military hospitals it was not unusual to meet with soldiers suffering from yellow fever who came from the interior of the island suffering from acute malaria. In those rare cases in which a careful study of the disease was made, frequently both infections could be traced without one being able to positively state the distinctive features of either one.

4. Published statistics show a reduction in the mortality of yellow fever by the use of the Sternberg treatment. Why is it not more generally used?

Eighteen physicians claim that they do not use it because they have obtained the same results with other treatment; eight claim that the bichlorid of mercury is a source of danger: seven physicians express no opinion because they have not used it; two have used it and continue to do so.

It is an indisputable fact that since the work of Dr. Sternberg was published, the majority of the doctors in this island use the alkaline treatment, adding other drugs to it for which they have some personal predilection. A great many do not use the bichlorid, having an exaggerated fear of producing mercurialization, undoubtedly a troublesome complication, especially in those attacked with yellow fever.

5. What is your treatment of yellow fever?

Fifteen physicians use laxatives, disinfectants, alkalies and tonics; eight use the classic symptomatic medication; seven, absolute diet and light laxatives; two, eliminative medication, tonics and hydrotherapy; one, alkaline medication with bichlorid of mercury.

The great majority of opinions expressed in answer to this question, the most important of all, show the vacillation of the clinicians when dealing with an acute infection whose pathogenesis is unknown. Every physician is filled with enthusiasm when he obtains favorable results with a special plan of medication in this disease, but his disappointment has no limits when a new case in the same epidemic or another presents itself with possibly more benign symptoms and the patient succumbs when treated with the same medication which gave him such favorable results in the first case. On this account we see practitioners using all medication that is suggested for yellow fever and later on discarding them as they acquire the conviction of their inefficacy. As long as we have not a more complete knowledge of its pathogenesis we cannot hope for a rational or certain treatment. Those which are proposed will never be more than mere attempts to aid the patient in his defense against the germs and the unknown toxins which are destroying him. Statistics have shown until now the futility of all forms of curative treatments proposed for this disease. It is proper to know them all but to hope also that a new study, possibly that instituted by Sanarelli, may soon solve this interesting question.

5. What is the mortality in your own experience?

Fourteen physicians claim from 27 to 39 per cent.; thirteen give no statistics, and six claim that statistics are very variable. Yellow-fever statistics have no value unless they have been carefully gathered for a period of at least ten years. If we notice the great difference which exists, one giving 7 per cent. mortality and another 80 per cent., we cannot help but come to the following conclusions: Either these statistics, which represent such extreme limits, have been made from a limited number of patients in two distinct epidemics or else very benign or malignant groups of cases have been included in them.

The statistics given by the fourteen physicians give a mean average of 23 per cent., which is more in keeping with the mortality of the severe forms of infectious fevers. There is as great diversity of opinions in the rate of mortality given as in the treatment.

Now that the season approaches when there will be a recurrence of yellow fever and when, unfortunately, so many non-acclimated strangers will succumb, I should propose as an humanitarian means and as an important question for our country, that the sanitary officers place under the care of those physicians who claim a mortality of 7 or 8 per cent. two wards for the care of those cases. If such a reduction of mortality could be obtained yellow fever would lose much of its terrors.

7. What is your opinion of the fiebre de borras? In what does it differ from yellow fever?

Twenty physicians claim that it is the same as yellow fever; seven that it is a malarial fever; three have never met with it, and two declare that it is a symptom of various diseases.

The difference of opinion which is apparent in twelve of the physicians is proof that they are not yet fully convinced and are not willing to go against tradition, as not one of them gives conclusive proofs to show the nature of the so-called fiebre de borras, whose only true difference from true yellow fever is the fact that it appears in the natives.

The notable works of Dr. John Guiteras, late Professor of Pathology in the University of Pennsylvania, on the epidemology of yellow fever, and those of Dr. Mudan of Matanzas, and others which have been made here in Havana during the past three years, show experimentally that "fiebre de borras" is without question yellow fever.

We shall only bring forward one argument. If

fiebre de borras was by nature paludic, why is it not observed in Europe or in any other country where malaria exists? Is it reasonable to suppose that this is but a rare privilege conceded to Cuba and other foci of yellow fever to have this special form of malaria?

It is only necessary to carefully observe a few cases of fiebre de borras for the most exacting clinician to become convinced of its yellow-fever origin. The majority of the physicians concede the identity of this fever with yellow fever.

8. What do you understand by acclimatization fever?

Twenty-three physicians affirm that it is a mild form of yellow fever. Ten do not know what acclimatization fever is; two refuse to believe it yellow fever.

Physicians in Cuba who have studied the fevers of the island have not without good reason given the name of acclimatization fever to that fever, different from other well-known forms, and which always makes its appearance in times of yellow-fever epidemics. Acclimatization fever is the mildest form of yellow fever. If its similarity to catarrhal fevers or to simple fevers caused by gastric disturbances or to others of simple nature is held up as proof of its not being a form of yellow fever, no importance should be attached to the fact. Learned clinicians of repute affirm that the so-called acclimatization fever confers immunity to a later and complete attack of yellow fever. This fact alone confirms what a respectable majority of the physicians interrogated recognize.

9. What do you consider the most dangerous part of the city of Havana, in relation to yellow fever?

Twenty-three physicians are of the opinion that the shores of the bay and the districts in the vicinity of the wharves constitute the most infected parts: seven, that these are to be found in the Military Hospitals, and buildings contaminated by having sheltered previous cases. Six state that the entire city of Havana is a permanent focus of contagion.

The whole thirty-five replies confirm the result of observations extending over a long period of time. The majority believe that the shores of the bay and districts adjoining the wharves are the most dangerous. In truth, in these places contagion is more active for two powerful reasons that tend to bring it about: First, the continuous crowding of foreigners, it being the commercial part and more densely populated by newly arrived Peninsular Spaniards, who through long-established habit come to live in the warehouses and establishments of their relatives and friends. These newly arrived immigrants constitute the most favorable means of cultivation of germs that this filthy and badly ventilated part of the town maintains in a latent state. Second, the proximity of the fortresses, barracks and arsenal that forced the Spanish soldiers to remain in their vicinity rather than in other parts of the city, and furthermore, the sending yearly of new Spanish soldiers who have always been in Cuba the sustainers of yellow fever and the propagators of its epidemics, from the fact of its contagion being denied (or not believed in) and there never having been measures of isolation and disinfection adopted. The fact of several officers dying successively in a building or quarters in the barracks of La Fuerza and other places has been constantly repeated up to the month of December, 1898, without it occurring to any one to scientifically disinfect those quarters after the deaths occurred and much less to isolate the sick. Hotels and boarding-houses of these districts, with Spanish officers as inmates, were so many more centers of contagion. To the Military Hospitals and infected buildings there must be added the Casas de Salud, (private infirmaries) of this capital, which, although their owners try to hide it, give and have always given a terrible contingent of yellow-fever cases. In these houses isolation is a myth; in the room of a yellow-fever patient there enter at all hours, and retire without disinfecting themselves, friends and acquaintances who unconsciously disseminate through the whole city the contagion of the yellow epidemic.

10. What precautions would you recommend for unacclimated people?

Thirteen physicians recommend observance of the general laws of health; nine, the running away from the contagion; seven, living beyond the foci of yellow-fever infection; three, the return of foreigners to their native countries. Two state that it is not possible to suggest a precaution. One recommends preventive inoculations. Here we come in contact with the difficulties arising from lack of knowledge. If we do not know the pathogenesis of the disease, how can we adopt precautionary or preventive measures? All the measures recommended are good, but they are without any practical basis. What does the rigorous observance of health-rules and even the flight from contagion amount to, of a non-vaccinated person in the midst of an epidemic of smallpox? The same happens with yellow fever, the specific germ of which, unfortunately, has not been sufficiently experimented with to warrant the certainty of its identification.

To fly from the contagion and live beyond the yellow-fever centers, is an impracticable measure which many foreigners are debarred from carrying into effect. The return of foreigners to their native country (which would entail a financial disaster to this country) and which three esteemed physicians

recommend, would simply prevent those foreigners, so returning, from dying here and nothing else. In corroboration, it is well to bear in mind the case of the unfortunate American engineer, Waring, who, although probably living under the most excellent hygienic conditions, could not escape contagion and, returning to his native country, fell a victim to the yellow fever which he had contracted here. And, on the other hand, the children of the island under ten years of age, not being immunes through a previous attack, would have to be banished therefrom.

It is not to those in health but to the sick that efforts must be directed to prevent contagion of yellow fever, establishing the strictest isolation, the same as if smallpox, the plague, dysentery or other contagious disease were being treated; to prevent its progagation so that the germs may die out through lack of material to feed upon. In this manner alone will it be possible to banish yellow fever from infested Havana, and Cuban soil throughout the island, brought about by the effect of war.

Modern medical science may well be proud of its preventive treatment of contagious diseases, which heretofore decimated whole cities, spreading desolation, terror, and ruin. Yellow fever belongs to this class, and its prevention is not a Titanic work nor one to be left for some future time. It belongs by right to men of the epoch of Pasteur, aided by some legislation that recognizes that public health is the most important of all things.

CRURAL THROMBOSIS FOLLOWING ASEPTIC CELIOTOMY.[1]

BY HENRY C. COE, M.D.,
OF NEW YORK.

AMONG the later complications of abdominal section for disease of the pelvic organs there is none that causes more annoyance to the surgeon and disappointment to the patient than the one which will be briefly discussed in this paper. Occurring, as it often does, in simple cases in which a rapid recovery had been confidently expected, and at the end of the first, or beginning of the second week, when all anxiety regarding the condition of the patient has been dismissed, its appearance is as unexpected as it is unwelcome. One whose surgical training has rendered him skeptical regarding the development of post-operative thrombosis from general causes, at once thinks of local sepsis, his suspicions being strengthened by the detection of an induration in the broad ligament, or at the site of the stump, on the affected side, and he begins to review his technic carefully in search of some broken link in the chain. If other sources of infection can be excluded he is apt to infer that his catgut was faulty, since it is well known that the center of the coarser sizes may be imperfectly sterilized and may not manifest its dangerous qualities until sufficient time has elapsed to allow the aseptic peripheral portion to become dissolved. Even though the bacteriological examination of the suspected piece is negative, it is impossible for him to dismiss the notion that there is a septic element in the case. Since there is, fortunately, no opportunity for post-mortem investigation, he is obliged to base his opinion entirely on clinical evidence, which is mainly negative.

That there is a general disposition to regard crural thrombosis following abdominal section as being purely of septic origin, and practically identical with the milder grade of puerperal phlegmasia dolens, once so familiar to obstetricians, is shown in the brief allusions to this complication in many textbooks and monographs. Kelly and Greig Smith, however, representing the most advanced teaching in abdominal surgery, carefully avoid using the word sepsis in this connection. The latter, in the last edition of his well-known work, devotes only eight lines to the subject of "edema of the legs," concluding with this statement: "Most cases could doubtless be explained by some traumatism or compression of a venous trunk in the pelvis by forceps or ligature; a few might arise from pelvic cellulitis or angioleucitis."

This explanation is plausible, but far from convincing, since it fails to account for the comparatively rare occurrence of thrombophlebitis after total extirpation in bad pus cases, in hysterectomy, in myomectomy, and especially in puerperal hysterectomy, where there is always marked dilatation of the vessels of the broad ligaments and mass-ligatures and clamps are so feely employed. Certainly if traumatism played an important part, the use of the angiotribe would seem to be especially favorable to the development of this condition, which is not the case.

As this paper is essentially clinical, I shall not burden you with a consideration of elementary facts regarding the nature and causation of thrombosis and phlebitis or review the various theories of Virchow, Cornil, *et al.* The subject is quite an old one, and reference to the English journals as far back as the early fifties shows that puerperal phlegmasia had been carefully studied at that time. Opposing papers by Lee, MacKenzie, and Tilbury Fox[1] furnish interesting reading from a historical, if not from a scientific, standpoint. Lee and Fox regarded phlegmasia as a local, MacKenzie as a constitutional, affection.

[1] Read at the twenty-fourth annual meeting of the American Gynecological Society, held at Philadelphia, May 23, 24, and 25, 1899.

[1] *British and Foreign Medico-Chirurgical Review*, p. 55, 1854; *Medical Times and Gazette*, vol. ii, p. 46, 1862.

H. Lee, in an earlier paper,[1] had already opposed the view of extension of a septic clot from the uterus, and affirmed his belief that crural phlegmasia was the local expression of a blood infection. This seems to have been the general opinion at this time, as it was reaffirmed by J. Y. Simpson.[2] Vaquez's monograph[3] is a distinct addition to the literature of this subject, and contains many suggestive sentences, which I would like to quote if time permitted. He takes issue with Virchow, agreeing with Widal[4] that phlegmasia is due to infection, even in the mild cases, which are attended with slight chills and moderate elevation of temperature. He is somewhat confusing, since in another place he refers to "aseptic" phlebitis following ligation or other injury to a vein, and states that an aseptic thrombus may subsequently become infected. The micro-organisms found in the thrombus, he says, may be identical with those at the original focus of infection, or they may be a different variety, invading the vein from without by way of the vasa vasorum. Thrombosis, he concludes, is not a simple clotting of blood, but is always secondary to phlebitis. It is interesting to note that he regards it as a rare complication of simple ovariotomy.

Of all the papers which I have read Wyder's gives the most information regarding thrombosis following aseptic celiotomy. His article on "Embolie der Lungenarterien in der geburtshilflich-gynäkologischen Praxis"[5] is based on twelve cases with eight deaths, which were carefully investigated post-mortem. Unfortunately no bacteriological examinations were recorded. As the author says, they furnish a startling commentary on the unavoidable dangers of abdominal section. The gynecological cases are so interesting that I venture to insert brief abstracts of them.

CASE I.—Virgin, aged forty years, with old varicosities and edema of both legs. Interstitial fibroid the size of the fist. Castration. Operation simple, and afebrile convalescence up to the fifth day, when the patient complained of sharp pains in the left foot. She expired suddenly on the same night. Autopsy showed partly decolorized thrombus in the left saphenous, extending into the femoral. Pelvic veins normal. Emboli in the main branches of both pulmonary arteries.

CASE II.—Virgin, aged forty-four years. Castration for fibroid the size of a child's head. Operation simple. Convalescence normal until the fourteenth day, when the heart action became rapid and irregular, and she died in a few minutes. At the autopsy the veins in both stumps were thrombotic, and the main branches of the pulmonary arteries were plugged with fresh emboli. Marked dilatation of the left ventricle.

CASE III.—Virgin, aged thirty-four years. Supravaginal amputation of the uterus for multiple fibroids, with extraperitoneal treatment of the stump, the operation being uncomplicated. Afebrile recovery until the eight day, when she expired with symptoms of pulmonary asphyxia. The left hypogastric vein contained a thrombus, and both pulmonary arteries were plugged.

CASE IV.—Primipara, aged thirty-eight years. Removal of the adnexa and ventrofixation. No symptoms until the eleventh day, when the patient was feeling quite well. She was suddenly attacked with dyspnea and died. Autopsy unsatisfactory, as the source of the emboli could not be discovered.

CASE V.—Multipara, aged thirty-nine years. Removal of intraligamentary ovarian cystoma of the left side, also the right tube and ovary. No symptoms until the tenth day, when the patient complained of feeling bad, and died in ten minutes. Numerous thrombi were found in the veins on the left side of the pelvis, extending into the left hypogastric. Emboli in both pulmonaries.

CASE VI.—Explorative section for carcinoma of the ovaries and peritoneum. Normal convalescence until the seventh day, when sudden death occurred with cyanosis. Thrombus (presumably old) in the vena cava inferior, with pulmonary emboli.

CASE VII.—Virgin, aged twenty-seven years, in robust health. Ventrofixation after removal of the left tube and ovary. Convalescence entirely normal until the seventh day, when she had an attack of dyspnea with rapid pulse, from which she rallied. Two other attacks occurred during the night, attended by severe pain under the left scapula, the third terminating fatally. The left pulmonary artery contained a recent embolus, but its origin could not be found. The writer believes that the accident was directly due to the operation, and that a thrombus must have developed in the veins of the stump, which had been completely dislodged, leaving no trace.

In summarizing Wyder states his belief that thrombosis in both the pelvic and crural veins is not uncommon after celiotomy, but that the thrombi are generally absorbed if they do not become infected. They are by no means confined to complicated operations, as shown by his cases. In general, pulmonary emboli are due to thrombi in the pelvic rather than in the crural veins, and give rise to no symptoms until they have extended to the vena cava. They may be present before operation, hence great care should be observed in operating upon patients with evidences of venous obstruction, especially if the heart action is weak, since even perfect asepsis does not guarantee recovery.

Mahler,[1] in an article on the same subject, reports fourteen fatal cases of pulmonary embolism occurring in the Dresden clinic between 1884 and 1894, six after gynecological operations. In every case brown atrophy or fatty degeneration of the heart was also found (as in the nine cases reported by Hoffmeier). He calls attention to the fact that when a large neoplasm is removed the intra-abdominal pressure sinks and the pelvic veins become dilated. Three varieties of thrombus formation are to be distinguished, *viz.*, the thrombus may extend from the uterus

[1] *British and Foreign Medico-Chirurgical Review*, p. 111, 1851.
[2] *Medical Times and Gazette*, vol. i, pp. 567 and 619, 1859.
[3] *Clinique Medicale de la Charite*, 1894.
[4] *These de Paris*, 1889.
[5] *Sam. klin Vorträge*, No. 146.

[1] *Arbeiten aus der Königlichen Frauenklinik in Dresden*, Band ii, 1895.

or its immediate vicinity into the pelvic veins; it may originate in the crural vein and extend upward into the iliac; it may form in the dilated veins of the broad ligaments, which are flabby, thin-walled, and cannot contract, so that the circulation is retarded. Moreover, the veins may be compressed by plastic exudate. The surface left after the enucleation of a fibromyoma is analogous to the placental site. Old thrombi may be present at the time of operation. Schwanz reports two fatal cases of embolism due to the detachment of such thrombi, and Dohrn[1] one in a case of fibroid before operation. (I recall a similar case at the Woman's Hospital in the service of Dr. Thomas.) Such thrombi are not infrequently present in the veins of the thickened broad ligament in connection with inflammatory disease of the adnexa or twisted pedicles, and extend into the pampiniform plexus after operation. After hysterectomy thrombi may form in these plexuses and in the uterovaginal veins on both sides. The capillary system of the broad ligament is such that the collateral circulation is established slowly.

In conclusion Mahler also calls attention to the more serious significance of intrapelvic as compared with crural thrombosis, since in the crural veins the thrombi tend to become organized, while in the pelvic veins, which are without valves, the clot may extend up into the iliacs, whence emboli may be carried directly to the lungs. In regard to crural thrombosis he adds the caution that the absence of edema is no indication that serious trouble is not present.

A recent contribution to the subject of thrombosis and embolism by Singer[2] deals more particularly with peculiarities of the pulse-curve, especially in fatal cases. Although his conclusions are based on observation of the phenomena attending puerperal thrombosis, they are applicable to some extent to post-operative cases. He distinguishes simple and inflammatory thrombi; the latter may be due purely to gonococcus infection, as shown by bacteriological examination, in which case the condition is not true puerperal phlegmasia. Singer evidently does not subscribe to the view that all thrombi are of septic origin.

It must be confessed that a careful review of the literature has failed to establish the etiology of post-operative thrombosis, especially with regard to the important question of septic infection.

For information on this obscure subject I naturally sought the fountain-head, and addressed a letter to Professor William H. Welch, who, in the kind and helpful spirit which always marks his attitude toward his younger brethren, replied at considerable length to my queries. I take the liberty of quoting several sentences from his letter:

Femoral thrombosis or phlebitis occurring under the conditions which you describe is a very interesting subject, but I do not think that the underlying causation is understood. I am familiar with this class of cases, as several similar instances have been observed here, particularly after gynecological operations, but also after other surgical operations on the abdomen, as for the radical cure of hernia, and, indeed, after surgical operations in general. In most cases there was nothing to raise suspicion of any septic or infective condition before the onset of the thrombosis, and then nothing but the thrombosis. In at least one instance the thrombosis involved the veins of an upper extremity. I do not know how well founded may be the impression which I have seen expressed that this complication is more common now than formerly.

Of late years some writers, particularly of the French school (Cornil, Widal, Vaquez), consider practically all venous thromboses, including those formerly called marantic, as infective, and it is true that bacteria have often been detected in these thrombi. Still, there are not a few negative results in examining the same class of cases, and I think that it is going altogether too far to generalize on the observations thus far collected and to assume that all these plugs are due to infection. Some have thought that the frequent onset with chills, elevated temperature, and rapid pulse indicated positive infection; but while, of course, suggestive of such an interpretation, I do not think that these symptoms are conclusive upon this point.

We have been examining bacteriologically this winter all the thromboses found at autopsy, and while several, perhaps the majority, have contained bacteria, oftenest streptococci, others have been sterile, so that I am not convinced of the infective origin of all such cases as you describe. Take the thromboses complicating chlorosis; these are often severe, with chills, high temperature, etc., and still thus far (with one very unconvincing exception) their bacteriological examination has been negative.

But I do not think that we can at present exclude infection in all these cases as the cause, and if we reject this explanation we should be quite at a loss for any other explanation. I am, therefore, inclined to the hypothesis that your cases and similar ones are due to infection, but at present this is only a hypothesis, and its foundation is mainly the difficulty of assigning any other probable cause. What is needed is an anatomical and bacteriological examination of the thrombi in these cases, and as the termination is usually favorable, the opportunities for such examinations are necessarily rare.

This is all very unsatisfactory I know, but the whole field is one which needs cultivating before any definite conclusions are warranted."[1]

The following cases occurred in my practice between May, 1898, and May, 1899:

Case I.—(Private.) Multipara, aged thirty-five years, with excellent general health, but with a history of recurrent attacks of peritonitis and constant abdominal pains. Diagnosis: Laceration of the pelvic floor, retroflexion with adhesions, diseased adnexa. Operation May 19,

[1] *Zeitschift fur Geb. u. Gyn.*, Band xi.
[2] *Archiv für Gynäkologie*, Band lvi, p. 218, 1898.

[1] Dr. Welch's article on thrombosis, in the recently published volume of Allbutt's "System of Medicine," contains an interesting summary of existing views on this subject with copious references.

1898. Divulsion and curettement, colpoperineorrhaphy, followed by removal of both adnexa and the adherent and diseased appendix, and internal shortening of the round ligaments. Adhesions slight, and no raw surfaces left within the pelvis. Separate ligation of the ovarian arteries, excision of the tubes, and suture of the broad ligaments in the usual manner, so that no stumps were left. Catgut used throughout. Convalescence normal, the highest temperature being 100.2° F. on the first day after operation. The patient began to complain of pain along the course of the left femoral vein at the middle of the second week. Well-marked induration was felt in the usual locality just below the groin, with slight edema of the foot and ankle. Pulse below 100, and temperature 99.5° to 100° F. No constitutional disturbance. Pelvic examination negative. Primary union of the wound.

The patient was kept absolutely quiet, but during my absence from the city for a day (on the twenty-fourth day) she insisted on being transferred to her home, which was only a short distance from the hospital, where she remained in bed for two weeks longer. Stiffness and edema persisted for two or three months, so that she was obliged to wear an elastic bandage, but she eventually made a perfect recovery, and has since led an active life, taking long bicycle rides, etc.

CASE II.—(Private.) Multipara, in good general health, aged thirty years. Sterile after six years of married life, suffering from severe dysmenorrhea and persistent pain in the right ovarian and appendical regions. Diagnosis: Anteflexion with stenosis, disease of the right ovary and tube, and possibly of the appendix. Operation July 1, 1898. After divulsion and curettement the abdomen was opened and the right ovary and tube were removed, with the thickened and adherent appendix. Ligation with catgut, no stump being left. Left ovary and tube entirely normal. During the night following the operation (the weather being intensely hot) her temperature rose to 103° F., but without acceleration of the pulse or indications of local trouble. During the week which followed the thermometer was seldom below 90° F. in her bedroom, and she suffered greatly from the heat in spite of ice-bags and cold sponging. Her temperature was irregular, ranging from 101° to 102.5°, but without any evidence of sepsis, so that no alarm was felt with regard to her ultimate recovery. On the fifth day she began to complain of pain in the left leg; a day or two later tenderness in the left groin on deep pressure was noted. By vaginal palpation a small, sensitive induration was detected at the base of the left broad ligament. Her temperature declined steadily after the first week, and soon dropped to 100° F., while there was at no time any marked acceleration of the pulse (it was seldom above 100) or constitutional symptoms.

The thrombophlebitis was quite obstinate, pain persisting for two weeks, while the edema was well marked. The pelvic induration could not be felt after the second week. Primary union of wound. She left for the country five weeks after the operation, wearing an elastic bandage, but did not make a complete recovery until fall, when she reported in excellent condition. I heard through her physician, six months after the operation, that she was entirely relieved of her former pains.

I have never been able to assign a satisfactory explanation for the sudden elevation of temperature. Insolation was suggested as a possible cause. Fever developed too early for local sepsis, and was too persistent for ordinary traumatic reaction. The patient was exceedingly nervous and restless, but I have never admitted "nervousness" as a cause of fever after surgical operations.

CASE III.—(Private.) Multipara, aged thirty-two years; general health good. Pressure symptoms, dysmenorrhea and menorrhagia, and more or less constant pain in the right inguinal region. Diagnosis: Small ovarian cyst. Operation November 3, 1898. Curettement, followed by removal of a cystoma of the left ovary, the size of an orange, non-adherent. Right ovary and tube normal. Catgut ligatures, and no stump. Appendix, the size of the thumb, removed and found to contain concretions, with marked thickening of its walls. Convalescence afebrile until the tenth day, when the patient began to complain of pain in the left leg. The temperature rose to 100° F., and fluctuated between 100° and 101.5° F. during the next ten days, the pulse seldom exceeding 100. Pain and induration along the left crural vein, but at no time was there any edema of the foot and ankle, merely a slight increase in the measurement at the calf. Vaginal examination negative. Constitutional disturbance limited to headache, coated tongue, diarrhea, and sleeplessness. Primary union of wound. The family physician came to the conclusion that the patient had developed a mild case of typhoid, which I doubted. The temperature became normal after three weeks, and she went home during the fifth, wearing a bandage. She remained in bed for a fortnight longer, and called to see me two months after the operation, feeling quite well, with the exception of some stiffness of the leg, which prevented her from walking more than two or three blocks at a time. This soon disappeared, and she has since been in good condition.

CASE IV.—(Hospital.) Virgin, aged forty years, a dressmaker, who had always enjoyed good health. She had a large ovarian cyst, which had undoubtedly existed for eighteen years (!), without giving rise to marked symptoms, until within the past year, when it began to grow rapidly. Operation March 4, 1899. Dermoid cyst, springing from the left ovary, entirely without adhesions, although it filled the abdomen. Right ovary and tube normal. Catgut ligatures, with suture of the broad ligament in the usual manner. Temperature reached 100° F. only once, on the third day; pulse never above 90. Toward the end of the second week she began to complain of pain along the course of the left femoral vein. Moderate edema of the foot and ankle. Vaginal examination negative. No constitutional disturbance. Primary union of wound. The symptoms rapidly subsided, and the patient insisted on leaving on the twenty-sixth day against advice. She remained quiet for two or three weeks, and made a perfect recovery. I saw her on May 15th, when she had no remains of the trouble, except slight stiffness in the affected limb, which did not interfere with locomotion.

CASE V.—(Private.) Multipara, aged forty-five years, strong and well-nourished. Had suffered for several months with menorrhagia, pain in the lower abdomen, and pressure symptoms. A fluctuating tumor the size of a grape-fruit was felt to the right of and anterior to the uterus, the organ being enlarged to three or four times its normal size. Diagnosis: Ovarian cyst.

Operation March 23, 1899. Divulsion and curettement, a small fibromyxomatous polypus and a quantity of fungosities being removed. Non-adherent cystoma removed from the right side and a commencing cystoma of the left ovary. No evidence of fibroid growths. Catgut ligatures, and no stumps left.

Convalescence entirely afebrile until tenth day, when,

after a slight chill, the temperature rose to 100° F., and the patient began to have pain at the origin of the left saphenous vein. The pain was more severe than in either of the previous cases, and was persistent, being only relieved by the constant use of an ice-bag (which I have found is the best local application in this condition), but the temperature only once reached 102.5° F. in the evening, dropping to 99° F. in the morning. The pulse at no time exceeded 100, the average rate being 80, even when the temperature was elevated. Marked induration along the saphenous vein, with considerable edema of the thigh, but none below the knee. Mild constitutional disturbance. Vaginal examination showed a distinct, painful induration at the site of the left stump, which could be traced outward to the pelvic wall. This disappeared in a few days with the use of hot douches (as in Case II.), while the crural phlegmasia was at its height. Convalescence was tedious, but the patient's general condition was excellent; she took plenty of nourishment, slept well, and preserved her usual equanimity. The temperature declined to normal at the end of the fourth week, when she was allowed to move to the lounge. As the pain returned (without rise of temperature) she was kept in bed for another week, and was not able to walk about her room until six weeks had elapsed after the operation. She went to church a week later, and is now (exactly two months after the operation) in excellent condition.

Just after writing the foregoing my attention was called to a sixth case, which seems to belong under this category.

CASE VI.—(Private.) Primipara, aged twenty-one years, a well-nourished German, whom I saw for the first time April 6, 1899. She was delivered at term three days before. Labor had proceeded normally for twelve hours, when the head was arrested at the perineum, the pains becoming inefficient. The attending physician administered two drams of ergot, soon after which the child was suddenly expelled with a violent pain; a half minute later a second contraction occurred, completely inverting the uterus. The placenta was implanted centrally at the fundus, the cord being unusually short. The doctor peeled it off and attempted to replace the uterus, which was impossible on account of the firm contraction of the ring. The hemorrhage was profuse, the patient collapsed, became pulseless, and was only kept alive by saline enemata and hypodermatic stimulation. Twelve hours later her pulse was 180, and the following day it remained at 150, and was quite feeble. Forty-eight hours after the accident an attempt at reduction was made under anesthesia, but she again collapsed, so that the manipulation was continued for only a few minutes. She was transferred to my service in the General Memorial Hospital seventy-two hours after the accident, having a pulse of 130 and a temperature of 101° F., exsanguinated, with unmistakable evidences of sepsis. Under light anesthesia the diagnosis of complete inversion was confirmed, but no attempt was made at reduction on account of the necrotic condition of the endometrium and the patient's extreme weakness. Decomposed membranes and bits of placenta were removed, douches of pure peroxid of hydrogen and saline solution were given and the vagina was tamponed.

During the next two weeks the temperature ranged from 99° to 101.6° F., the pulse varying from 90 to 120. Douches of peroxid and saturated solution of boric acid were used, at first every six hours, later twice daily. The patient improved rapidly, her recovery being retarded by several ugly abscesses on the arms and legs (a legacy of the accoucheur). She sat up on the twenty-third day, and menstruated normally two days later without discomfort, normal involution having occurred. On the thirty-second day after entering the hospital (the thirty-fifth since the accident) she was in a good condition for operation.

Under anesthesia it was at once evident that reduction could not be effected by ordinary manipulation. Although the uterus was small (about the size of a Bartlett pear), the contraction ring was unusually tight. The abdomen was opened, and with the able assistance of Dr. Jarman, after half an hour of hard work, the ring was stretched with the fingers and a Wathen's dilator (the ends of which were guarded with rubber tubing), and we succeeded in replacing the inverted organ. The tubes, ovaries and broad ligaments were perfectly normal, and there was no evidence of any obstruction to the circulation. As the round ligaments were greatly elongated, it was deemed advisable to shorten them by Mann's method. No reaction after the operation. Temperature on the following day was 99.4° F., and after the fourth day 98° to 99° F., the pulse ranging from 80 to 90. Convalescence entirely normal up to the ninth day, when examination of the wound showed primary union. The same evening the temperature rose to 100.2° F., the pulse being 90, and the patient complained of pain in the left groin and inner aspect of the thigh. It appeared later that she had felt slight pain on the previous day, but had not alluded to it. Examination per vaginam on the following day revealed a tender cord, which could be traced from the side of the uterus along the base of the broad ligament to the pelvic wall, where it was evidently continuous with an induration at the beginning of the saphenous vein. Uterus small, in normal position, and insensitive. No vaginal discharge; no edema of the limb. The evening temperature was 101° F., the pulse 92. No constitutional symptoms. On the eleventh day the temperature ranged from 100.4° to 102.2°, the pulse being 112. Pain moderate, and slight edema of the foot noted. On the twelfth day temperature 100.4 to 102° F., pulse 106 to 112. Treatment: Hot vaginal douches, ice-bag, elevation of the limb, strychnin and quinin. Patient taking plenty of nourishment and presented no septic symptoms.

On the following day her temperature fell to 99° F., the pain and edema rapidly disappeared, and she was discharged at her urgent request, in the fourth week, without any trace of local trouble. The pelvic organs were entirely normal. Two weeks later she was in excellent condition.

I have few comments to add to these clinical notes. A rigid revision of the technic, both by my associate, Dr. George W. Jarman, and myself, failed to reveal any loophole by which infection could have crept in. Dr. Jarman himself assisted me in four of the private operations and personally attended to the sterilization of the instruments and field of operation. The nurse was not allowed to touch anything that came in contact with the wound. According to our usual custom, after thorough sterilization of the hands by the method employed at the Johns Hopkins Hospital, rubber gloves were worn, which were removed immediately before the operation, when the hands were again washed in alcohol, bichlorid 1:1000, and saline solution. Neither of us had recently attended a septic case. The catgut, prepared by Levens, was regarded as above suspicion,

and the tubes were sterilized with the instruments. In short, as the cases were important ones, every precaution was taken to insure a perfect result. The disappointment at the failures was therefore so much the keener.

Certain negative points should be emphasized. No foci of infection were discovered during the operation. Mass ligatures were not used, no stumps were left at the uterine cornua, and no raw surfaces remained within the pelvis, yet in three cases there was evidently thrombophlebitis of the veins in the broad ligament of the affected side, which, presumably, was continuous with the process in the crural vein. Curiously enough, in Case II. there had been no lesion of the tissues on the left side, as the tube and ovary were normal. The pelvic indurations disappeared within a week, while the crural thrombosis was at its height, leaving absolutely no traces, such as often persist for months in the case of inflammatory exudates surrounding silk ligatures and infected stumps. The patients were all in excellent general condition before and after the operation, with no evidence of circulatory disturbance, so that the theory of marantic thrombosis is untenable. No traces of varicosities of the veins of the extremities or of those within the pelvis were noted. The bowels were moved daily after the third day in each instance. In none was there any disturbance of the stomach, or any symptoms causing anxiety with regard to the ultimate recovery of the patient. Pain in the affected limb was the most marked symptom, and in all but one case it was sufficient to constitute a true phlegmasia dolens. Induration was present in all, but the edema was moderate, localized, and transient, leading to the inference that either the thrombi were parietal, or that the collateral circulation was free. Recovery was rapid as compared with ordinary cases, even though the mistake was made of allowing the patients to leave their beds too soon. In but one instance did a chill occur, and in only two was there the acceleration of the pulse, on which Singer and others lay much stress. In short, the clinical histories throw little or no light upon the etiology of the condition. Certainly the occurrence of six cases of this character within a year in the comparatively limited experience of a single operator must be regarded as unusual, if not unique.

It is interesting to note that the appendix was removed in three cases. Attention has been called by Welch to the fact that crural thrombosis has been noted in several instances as a complication of this operation.

In this connection I may be permitted to refer briefly to a case of crural thrombosis following trachelorrhaphy—a rare complication after this simple operation, considering the number of times that it has been performed and the septic infection (sometimes fatal) which used to attend it in the early preaseptic days. Why it should be so infrequent I do not know, in fact, I have never met with any allusion to it in the voluminous literature of Emmet's operation.

The patient (private) was a delicate subject, aged twenty five years, whose only labor had been rather severe, terminated by forceps. Bilateral laceration of the cervix, with fixation of the uterus, due to a large cicatrix extending to the base of the left broad ligament; laceration of the pelvic floor. Operation January 6, 1898. Strict aseptic precautions were observed, as in vaginal hysterectomy. Curettement, bilateral denudation of the cervix, the cicatrix on the left side being dissected out. Chromicized-gut sutures. Hegar's colpoperineorrhaphy, with a continuous suture of chromicized gut within the vagina and a few external sutures of silkworm gut. Convalescence afebrile, and the patient was kept absolutely quiet for two weeks. Toward the end of the second week she complained of some stiffness in the left leg, but had no rise of temperature above 99.5° F. A well-marked thrombophlebitis developed, with considerable pain and edema. There was tenderness on palpation in the left lateral fornix, but no induration could be left. Primary union of perineal and vaginal wounds. The patient suffered from pain and edema for several weeks after the operation, and could not walk without a bandage. Examination of the cervix at the end of a month showed excellent union, and nothing abnormal could be detected in the pelvis. It was at least six months before she experienced the benefit of the operation, and her example naturally deterred some of her friends from running the risk of a similar experience at my hands.

In the absence of any evidence of sepsis, and considering the anemic condition of the patient, I was inclined to believe that this was possibly a case of so-called anemic thrombosis, with which the operation had nothing directly to do. This view, however, is open to criticism.

The question of most practical interest in connection with this subject is that of prophylaxis. Is it possible to foresee and to prevent thrombosis after celiotomy? Judging from the cases which I have reported, we are not yet in a position to give an affirmative reply. Wyder and Mahler advise not to operate upon patients with weak hearts, varicosities, and edema of the lower limbs. But all surgeons operate under these conditions, yet the number of cases of thrombosis and embolism are insignificant considering the number of operations. Wyder's inference that the frequency of this complication must increase with the constant increase in surgical activity is hardly borne out by the facts. Certainly the mortality after celiotomy in the foremost foreign and American clinics has steadily decreased with the perfection of modern aseptic technic. Improved methods of operating

and greater experience and manual dexterity have reduced the actual period of anesthesia, and with it the number of deaths from shock, hemorrhage, and visceral complications.

Sepsis is, and always will be, the one enemy which we have to fear. When we have succeeded in banishing it, at least from without, will thrombophlebitis be also eliminated in cases which were aseptic before operation?

The diagnosis of thrombosis confined to the pelvic veins, as shown by Wyder's cases, is practically impossible; but when combined with the crural variety (as in three of my own cases) it may be inferred from the presence of an induration extending along the broad ligament of the affected side. The recognition of crural phlegmasia after it is fully developed is so easy that even a tyro would not overlook it; but it has been affirmed that an expert should recognize the latent symptoms which appear in what Vaquez calls the "pre-obliterating" stage.[1] Singer,[2] who has devoted considerable attention to a study of the pulse, claims that it is always more rapid than usual from the outset (that is, after the disturbance attending the operation should have subsided), and that after the seventh day the curve rises sharply, reaches its acme on the ninth day, when the local signs of obstruction appear, there being a direct relation between the pulse and the gradual development of thrombosis, with the consequent increased resistance to the circulation. In a typical case the curve rises rapidly, while the temperature is still normal, and remains high after the latter drops. This peculiarity of the pulse (designated as *staffelförmiger* or *Treppenpuls*) is regarded by all recent observers as the most important, in fact, the only early indication of beginning thrombosis. It was most characteristic in the fatal cases of pulmonary embolism, so that its persistence and accentuation are regarded as somewhat ominous. Since it was not marked in my cases I infer that they belong to a different type from those on which Singer based his conclusions—in fact, the phenomenon seems to be most marked in pueperal phlegmasia. It would seem to point to a septic condition, in the diagnosis of which it is well known that the pulse is often of more value than the temperature.

So far as my own experience has gone, a slight elevation of temperature (99.5° or 100° F.) is most apt to attract the attention of the ordinary observer, and, in the absence of evidences of trouble in the wound or within the pelvis, to lead to the suspicion that phlebitis is developing; but careful questioning of the patient will often elicit the information that slight stiffness of the leg was noted before any other symptoms appeared.

The pain is often entirely out of proportion to the extent of the lesion. I do not know that it has ever been satisfactorily explained, unless we accept Simpson's view that it is caused by stretching of the walls of the vessel. The early notion that it was due to an accompanying peripheral neuritis he positively rejected, though it is now held by careful observers.

Edema is nearly always present, though it may be so slight as to be appreciated only on careful measurements of both limbs. In this respect my cases presented a marked contrast to the phlegmasia attending puerperal and post-operative septicemia.

The prognosis in the class of cases which I have described is favorable as regards both a rapid recovery and complete disappearance of the local trouble; but the experience of the German surgeons whom I have quoted serves to emphasize in quite a startling way the fact that thrombosis following aseptic celiotomy is a complication which cannot be regarded with indifference. The sudden onset of pulmonary embolism in patients whose condition had not previously caused the slightest anxiety furnishes a forcible commentary on the uncertainty of the prognosis, as well as the absolute helplessness of the surgeon.

In regard to treatment it cannot be said that the usual local applications or general medication influence the course of the affection, either by limiting the extent of the thrombus, or by hastening its resolution. Absolute rest in the recumbent posture without manipulation of the affected limb, although irksome to the patient, is the most important point. We are apt to yield to her importunities, and to allow her to sit up too soon. The disappearance of the local pain, induration, and edema, and the continuance of a normal temperature for several days are usually regarded as indicative of complete recovery; but as long as the pulse remains at 90 or 100 it is well to err on the safe side, and to keep the patient in bed a few days longer. Singer even insists that the recumbent posture should be maintained for at least three weeks after the pulse has become normal. Although this caution may seem to be extreme, it will at least prevent a relapse, with the consequent annoyance to the patient, even though the risk of pulmonary embolism may be so slight as to be disregarded.

[1] *L'Abeille Medicale*, No. 53, p. 281, 1896.
[2] *Loc. cit.*

The Population of Puerto Rico Increasing.—At San Juan during the month of May, 1899, there were sixty-four births. During the same month of the previous year there were only forty. At Ponce, during the month of May, 1899, there were eighty-nine births. During the same month of the previous year there were fifty-two.

OTITIS OF THE EXANTHEMATA FROM THE STANDPOINT OF THE PEDIATRICIAN AND GENERAL PRACTITIONER.[1]

BY J. HENRY FRUITNIGHT, M.D.,
OF NEW YORK.

IN my experience, covering a quarter of a century and embracing nearly 5000 cases of the exanthemata, especially scarlet fever and measles, I have met with otitis media as the most frequent of the various complications which may occur during the course of these diseases. Of these patients, fully one-third were victims to a greater or less degree of this particular complication, and of these twenty-eight were bilateral. These cases naturally varied in type of severity both as individuals and as exponents of different epidemics. Nor was the frequency of the occurrence of the complicating otitis in a direct ratio to the severity of the general constitutional symptoms of the infection as, *a priori*, one might be led to expect. For often have I encountered this complication in cases of comparatively mild infection, and conversely, those exhibiting symptoms of a graver form very frequently escaped without this or any otner complication developing. In those highly malignant cases which run their course and terminate fatally in a period of from of eight to twenty-four hours, I have never seen this complication because the patient succumbed before a sufficient length of time had elapsed to permit its development. In general terms it may be affirmed that complicating otitis is very apt to be developed in those cases which have much irritation, congestion, or inflammation of the faucial mucous membrane, the anatomical relations primarily favoring this, and the activity of the specific infection promoting the development of this complication, and if adenoids or large tonsils be present this liability to the development of otitis is accentuated.

If these cases of otitis media complicating the exanthemata were always treated by the attending physician from the very onset of symptoms a great many of the patients could be cured with less suffering and with less chance of the occurrence of possible defective hearing or even total deafness. Too often when the patient complains of pain in the ear does the physician ignore the significance of this symptom, and later when the ear symptoms have become urgent it is recognized that valuable time has been lost in not having treated the complication when first the little patient began to complain, for I have often cut short an attack or at least mitigated its severity and preserved the patient's hearing by at once treating this complication at its very commencement. With me it is routine practice in every case of the eruptive fevers to watch the ears of the patients, knowing as I do how frequently otitis occurs as a complication and what deplorable results to the auditory apparatus may follow the affection. Those cases which are left untreated or which are perfunctorily treated will very often invite involvement of the mastoid process. In my hands this has never occurred, for my cases were always treated as soon as the first symptom appeared, thus cutting short the progress of the inflammatory process. If the attack be treated immediately upon its appearance I have not found it necessary to call in the aid of an otologist. Some cases which I did not see from the very beginning of the attack of the exanthem did require later the services of the aural specialist. I can recall one case in particular in which operation was performed by Dr. Herman Knapp, who went down through the mastoid process to the brain itself and removed an exudate from the outer surfaces of the lateral cerebral sinus. The child, marvelous to say, did not die. This child had developed a particularly severe otitis media during an attack of measles, resulting in this extensive caries of the mastoid process. She was not under my care during her attack of measles. It is but proper to say that this child showed lively traces of a tuberculous taint, and Dr. Knapp expressed the opinion that the mastoid disease was tuberculous in character.

And this suggests another point, for I observed that those children who were the subjects of a constitutional taint, as tuberculous, rachitic, syphilitic, and what would in former days have been designated scrofulous or strumous, were very prone to the development of this complicating otitis. I have already written *in extenso* concerning the treatment of complicating otitis media in the *Transactions of the American Pediatric Society* for 1889, and in an article read before the Northwestern Medical and Surgical Society of this city, and published in the MEDICAL NEWS, Vol. 69, 1896, so I shall not enter into its details. There are, however, a few points in the treatment on which I shall touch.

First, it is extremely important that scrupulous attention be given to the active treatment of the nose and throat in these cases, for thereby an attack of otitis is very often prevented. In regard to the question of paracentesis tympani I do not think that it is *always* necessary to incise the drum membrane. If, however, on inspection we can satisfy ourselves that the tympanum is projecting and is highly congested, and the patient is frantic with pain, then the membrane should be incised to relieve the engorged blood-vessels. These cases, however, are not so very common. When it has been necessary to do this I have made the incision myself.

[1] Read before the Section on Pediatrics of the New York Academy of Medicine, May 11, 1899.

Those cases which are slow to suppurate are in my experience the ones requiring this procedure. It has been seldom necessary in my experience to incise the drum membrane in suppurative cases, for many of such cases would perforate without warning. If the attendant does not have sufficient confidence in his ability to inspect the aural canal with the head mirror and hesitates to incise the membrane, then he should in the interest of the patient and for his own protection seek the advice and skill of the ear specialist.

The effort, however, should always be made to abort the attack and to hinder suppuration and perforation, because when the complication shall have gone to this extent the time needed to cure it will have been much augmented and the difficulties involved in its cure will have been increased many fold. As already intimated, those patients who are subjects of a constitutional taint, and in whom the otitis has been left untreated and allowed to go on to perforation, are very apt not to get well, but become chronic cases and lose their audition. For the accompanying otorrhea I have latterly followed the following plan of treatment: First, five drops of peroxid of hydrogen are instilled in the ear; after a few minutes this is flushed out with lukewarm water until the water returns clear, free from all turbidity; the canal is then carefully dried out with pledgets of absorbent cotton. Then three drops of an alcoholic solution of boric acid is put in the ear and allowed to remain there. The strength of this solution is from five to ten grains to the ounce of alcohol. In most cases this treatment has been successful in checking the purulent or seropurulent discharges, though I caution the nurse that the treatment must not be discontinued so long as there is a vestige of the discharge.

CLINICAL MEMORANDUM.

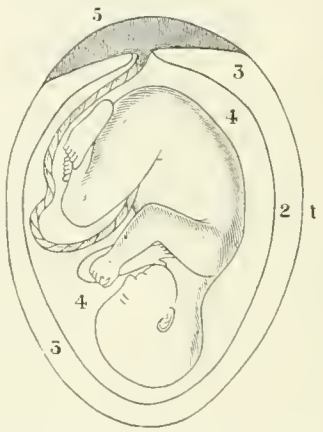
PERMANENT SEPARATION OF THE AMNION AND CHORION IN THE MATURE AFTERBIRTH, FORMING DOUBLE FETAL SACS.

By J. B. NICHOLS, M.D.,
of Washington, D.C.

In the early period of pregnancy the amnion and chorion are separate membranes and inclose separate (concentric) cavities, the amnionic and chorionic. Later, about the third month, the amnion becomes closely applied to the chorion, and the two membranes grow together, obliterating the chorionic space. It rarely happens that the primitive separation of the amnion and chorion persists throughout pregnancy, so that the fetus is enveloped in two separate sacs, the amnion internally and the chorion (united to the decidua) externally.

In April, 1899, I obtained for microscopical purposes, through the kindness of Dr. W. G. Suter, a human placenta with membranes and cord. The afterbirth was fully matured, and from a normal labor at full term; unfortunately further details of the maternal history could not, when later sought for, be ascertained. On examination this afterbirth was found to exhibit the abnormality of having the amnion entirely separate from the chorion, so that the fetus was surrounded by two separate sacs. The outer sac corresponded to the ordinary fetal membranes, proceeding from the margin of the placenta about the fetus; microscopical examination showed this to consist of the chorion and decidua vera, the amnion, which is ordinarily attached to the inner surface of the chorion, being missing. The inner sac was, as shown

Fig. 1.



Afterbirth with double sac. 1. Outer sac—chorion and decidua 2. Inner sac—amnion. 3. Chorionic cavity. 4. Amniotic cavity. 5. Placenta.

by the microscope, the amnion; it was given off from the placenta immediately around the insertion of the umbilical cord, and was thence reflected over the cord and fetus. A broad interval intervened between the amnion and chorion, and the surface of the placenta was not covered by amnion. The condition is exhibited diagrammatically in the accompanying sketch.

In such cases of double fetal sacs two separate discharges of the waters may occur, giving rise to a form of hydrorrhea gravidarum, or what was formerly known as "false waters."

The condition under consideration is a rare anomaly of the afterbirth, and one that is not specifically mentioned in standard works on obstetrics. I have found seven other cases of this abnormality on record, as follows:

Jörg, J. C. G. Schriften zur Beförderung der Kenntniss des menschlichen Weibes, 1812, part i, page 279.

Logan, C. A. *Leavenworth Medical Herald*, December, 1868, page 296. (two cases).

Chesney, J. P. *Leavenworth Medical Herald*, January, 1869, page 346.

Gilbert. *Detroit Lancet*, November, 1879, page 204.

Wood, Thomas. *Transactions of the Edinburgh Obstetrical Society*, Vol. XIII., page 126.

Bowen, W. Sinclair. *Transactions of the Washington Obstetrical and Gynecological Society*, Vol. IV., page 47. Dr. Bowen's specimen is in the Army Medical Museum.

MEDICAL PROGRESS.

Metastatic Pyemia from Trivial Causes.—Under the above caption, MCGREGOR-ROBERTSON and MCKENDRICK (*Practitioner*, May, 1899) give the most interesting details of a case of pyemia, which in two weeks brought about the death of an unusually vigorous man of sixty years of age. The only cause which could be ascertained for the entrance of the germs was a boil, which had arisen on the back of his neck a month previously, and which had entirely healed. Two or three smaller boils in the vicinity of the primary one were still active, but they were so insignificant that they were not considered etiologically, and the correct diagnosis was not made until the eighth day of the disease, when an abscess appeared in the right forearm. Two days afterward abscesses developed in the left wrist and right shoulder, and a pelvic abscess which gave no symptoms during life, was found *post-mortem*. In the beginning of the attack the fever was slight, the tongue was coated, and there was a very slight heart murmur. The suspicion of enteric fever was aroused. On the third day there was retention of urine, easily relieved by a silver catheter, and pelvic and abdominal examination showed no possible cause for the retention, other than a slight tenderness over the kidneys. The amount of urine was from that time on small, and the sediment contained some casts, so that nephritis was also considered. The low fever continued, and the heart's action became quicker, feebler, and more irregular, and when the abscess appeared in the arm, the diagnosis of malignant endocarditis was made. Multiple minute abscesses were found at autopsy in the lungs, liver, kidneys, and prostate gland. There was a moderate degree of old inflammation in the cardiac valves, but none of recent date. Medical literature contains the records of a number of cases similar to this one in which fatal pyemia followed an apparently trivial infection. The source of infection in such cases has often been in a felon, but in the large majority the pyemia has resulted from infection about the mouth or in the tonsillar region. An initial rigor, which in the case of the writers' was only a chilly sensation, is an almost invariable first symptom of the pyemia.

Removal of a Bougie from the Male Bladder.—GOLDBERG (*Centralbl. f. die Krank. der Harn. und Sexual-Org.*, April 22, 1899) divided a tight stricture with a Maisonneuve instrument. When he withdrew it, he found that the filiform bougie, which had acted as a guide, had remained in the bladder. The bladder was irrigated with mild antiseptic solutions for six days, a soft catheter being left in the urethra for two days. On the sixth day he saw the bougie through the cystoscope, lying across the urethral orifice. A small lithrotrite was passed and closed upon the bougie, which was readily extracted. Irrigations were kept up for a considerable time while the urethra was gradually dilated. There were no bad after effects.

Poisoning from Chloroform Decomposed by an Open Flame.—WINSLOW (*Boston Med. and Surg. Jour.*, May 11, 1899) assisted at an obstetrical operation in a room 12x 12 x 8.5 feet, in which there were three lighted gas-jets. Chloroform was used, but the fumes of the chlorin soon became so dense that the operation would have been abandoned had not all the windows been opened and ether substituted for the chloroform. Neither the physicians nor the patient suffered any permanent ill effects from breathing the gas, but the case ought to serve as a warning to others who administer chloroform in the presence of a lighted lamp or gas-jet, without providing for the escape of the poisonous vapors which are caused by the decomposition of the chloroform. The danger may be avoided by selecting a large, well-ventilated room, and by keeping the chloroform well below the light, using an inhaler such as Clover's, Junker's or Snow's, which prevents the escape of chloroform into the room. The most peculiar thing about this case was the fact that no one of the physicians present at the operation nor several others to whom they spoke about it, divined the origin of the irrespirable vapors, and ether was substituted for chloroform simply on the grounds that it was safer to use, as the operation would last longer than had been anticipated.

A Physician's View of the Indications for Operation in Cholelithiasis.—NAUNYN (*Centralbl f. Chir.*, April 22, 1899) affirms that cholelithiasis as seen in private practice is not so grave a condition as hospital practice leads one to think. He asserts that a favorable issue results in the large majority of cases without surgical interference. Certainly stones as large as a cherry can pass the common duct, and in many cases a fistula forms between the common duct and the duodenum, and then still larger stones may pass. Indications for operation are given as follows:

1. It is not justifiable to advocate operation in every case as soon as a diagnosis of cholelithiasis has been established, for operative interference does not guarantee a permanent cure, since stones may be left behind, or others form.

2. Cases of acute cholecystitis with a greatly distended gall-bladder, as well as chronic cases of hydrops of the gall-bladder should be submitted to operation.

3. In cases of chronic recurrent cholelithiasis, and

4. In cases of obstructive jaundice operation should not be resorted to until a thorough Carlsbad treatment has failed.

Gastrocolic Symphysis.—BOUVERET (*Rev. de Med.*, April, 1899) describes under the name of gastrocolic symphysis, the drawing together of the stomach and transverse colon, which often follows chronic peritonitis either of a general character, or when localized in the region above the umbilicus. Extreme cases in which the stomach and colon are glued together throughout the whole length of the former are rare. In the ordinary cases, the attachment is not so close but may still give rise to a set of symptoms sufficiently definite to warrant

their grouping under a single name. Bouveret saw eight cases, in all of which the exciting cause was either cancer or ulcer of the stomach, and in all of which the adhesions were situated at the pylorus and extended to a greater or less distance along the greater curvature. The symptoms of pyloric stenosis were aggravated by the attachment of this part of the stomach to the liver, pancreas, or gall-bladder, while if the adhesions had caused the immobilization of a part of the stomach they set up the most intense pains. Adhesion to the liver was especially common when the trouble was due to a simple ulcer. There are two complications of this affection which can terminate life, a gastrocolic fistula and occlusion of the intestine. From a comparison of histories of sixty-two cases of fistula the following symptoms were noted: Fecal vomiting, the passage of undigested food (lientery) similarity of the vomited matter and the stools, profuse diarrhea, thirst, rapid emaciation, a fecal odor to the breath and to eructations, the sudden cessation of vomiting which has existed for a long time, or the sudden disappearance of a tumor which had existed for a long time, and the vomiting of injections. To these signs may be added the evidence offered by the inflation of the colon with air, through the rectum, and the results of the chemical examination of the stools. These signs do not all have an equal value. However, if the fistula is large enough to permit the free passage of fluids, the diagnosis will usually not be hard to make during life. Stenosis of the intestine may be produced by a band, by circular constriction, and by abnormal fixation, three factors which will be likely to be combined in various ways. The symptoms are those of obstruction elsewhere in the large intestine. Occlusion is usually incomplete for a long time, and the death is therefore a lingering one. In some patients it is possible to make out that the increased peristalsis due to the obstruction has already begun in the cecum and ascending colon but has not yet extended to the small intestine. This partial peristalsis of the large intestine has a great value in diagnosis. It is well known in connection with pyloric obstruction, the stomach alone being involved in the increased movements; but increased peristalsis of the small intestine has also been observed, though it is certainly rare. General peristalsis is the fourth variety of peristalsis and is of less value in diagnosis than the partial ones.

In operating upon a patient with gastrocolic symphysis a median incision above the umbilicus is to be preferred.

THERAPEUTIC NOTES.

Use of Salt Solution in Eclampsia.—ALLEN (*Amer. Jour. of Obstet.*, May, 1899), having treated a number of eclamptic patients without the use of saline infusion and also a number by this method, says that it is impossible to realize its great advantages unless one has watched its results. He advocates for *pre-eclamptic* treatment, thorough purgation, and warm baths twice a day, a milk and water diet, and sedatives. If the symptoms do not improve, interference with pregnancy is justifiable. In cases seen after convulsions have begun, his *eclamptic* treatment is to give morphin at once, and inject into the bowel 1 dram of bromid and 40 grains of chloral, to anesthetize the patient, using as little chloroform as possible, and to empty the uterus, by forceps or version, to allow the patient to bleed from the uterus for a time and if not enough blood is lost in this way to open a vein. As soon as possible after delivery he introduces 700 c.c. salt solution under each mamma and if necessary he repeats the injections daily for several days. The only drug that seems efficient to move the sluggish bowels in this disease is croton oil in large doses. Two drops may be given in 2 drams of olive oil, the latter preventing the severe irritation which croton oil sometimes causes. As soon as the patient rouses sufficiently she is given dram doses of Epsom salts every hour, or an enema. Wet and dry cups may be applied over the kidneys, or a half ounce infusion of digitalis given every four hours. The diet is exclusively milk. A hot air bath or a wet pack is useful in stimulating the skin. During convalescence a tonic is needed.

An Internal Plate for Ununited Bones.—POTARCA (*La Presse Med.*, April 19, 1899) cuts down upon an ununited fractured bone, squares the two ends, and holds them in a correct position, closely approximated, by a thin metal plate which is screwed fast to each fractured end, just as one might mend a broken cane. The after treatment is very simple. Held together so accurately, the bones quickly unite, and when union is sufficiently solid, the plate is exposed by a new operation, the screws taken out, the plate removed and the new wound allowed to heal. There are no complications to be feared, if the plates are capable of being sterilized, and are made of some metal which will not decompose or form poisonous salts in the fluids of the human body. Nickel, almost pure, answers these requirements better than silver, platinum, aluminum, or copper. This method of treatment is also recommended in recent fractures in which reduction cannot be obtained or cannot be maintained. Thanks to the X-ray, the relations of the ends of the bone can be determined with exactness, and an immediate operation be performed if it is found to be desirable.

The Thyroid Gland in Infectious Diseases.—ROGER and GARNIER (*La Presse Med.*, April 19, 1899) examined the thyroid glands of thirty-three patients who died from infectious diseases—scarlet fever, measles, diphtheria, smallpox, typhoid fever, cerebrospinal meningitis, and septic peritonitis. It was not always possible to say how much of the alteration in any given case was due to the primary disease, and how much to the fatal complications. In general, however, there was congestion and hypertrophy of the thyroid, with an increased and altered secretion, and in the only smallpox case examined, and in one of the diphtheria cases, there were foci of parenchymatous hemorrhage. Most of the changes were of such a character that, had the patient lived, they could easily have been recovered from; but other lesions suggested a permanent derangement of the gland though just how the system could be affected thereby is impossible to state with our present knowledge of the pathology of the thyroid.

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SATURDAY, JULY 1, 1899.

YELLOW FEVER; ITS DIAGNOSIS AND QUARANTINE REGULATIONS.

OUR relations with Cuba and the West Indies generally have become so intimate that every one has been looking forward with no little dread to the increased possibilities of yellow fever being imported into the States during the present summer. The recent outbreak of the disease in the garrisons at Santiago and Cienfuegos, although limited in extent and rapidly brought under control, adds to the apprehension.

Dr. Lainé's article, which we publish this week, while giving the important practical points for the speedy recognition of yellow fever makes it clear that even, in experienced hands, the unfailing detection of the disease at its inception is a very knotty problem and one that cannot be solved with the ready facility that popular tradition usually assumes.

The points given by Dr. Lainé cannot fail to be of the greatest service, however, and the very fact that those who are most familiar with the disease deprecate the idea that any assured means of early diagnosis of yellow fever exists, in the absence of an epidemic, will make medical men when suspicious cases come under their care all the more careful of making definite declarations until assurance beyond doubt or cavil is at hand. It is probable that owing to increase of commercial relations between the West-Indian islands and the mainland a certain number of actual cases of yellow fever may be imported and that a number of insolation and choleraic cases that develop shortly after landing will be open to the serious suspicion that they are yellow fever. Under either of these circumstances it is important that diagnosis should be carefully considered and be absolutely assured before made public. The public health and the commercial interests of the country are dependent on it.

It is unfortunate that we have not a uniform system of quarantine. Quarantine regulations at present are dependent on State governments and differences are very notable. So long as the responsibility for the public health of the country is thus divided among many, loopholes for the entrance of epidemic disease are liable to be left unprotected, and the lack of a National Bureau of Health will be more and more felt in the immediate future. The Marine Hospital Service is doing all that can be expected of it, with its inadequate means and unsatisfactory authority. It is certain that the work accomplished by it even under these trying conditions is making clearer the advisability of committing the care of public health to a central bureau.

The State government of Georgia has recently turned over to the United States Marine Hospital Service its quarantine at Savannah. The effective work done by this department in the Southern States at times of yellow-fever invasion during the past few years, certainly justifies this action and stamps it as a step in the right direction. It is to be hoped that other State governments will see their way to a movement in the same direction. Under present conditions and without the National Bureau of Health that we should have, this voluntary appeal to the Marine Hospital Service seems the action most suited to secure easily and promptly the uniformity of quarantine regulations.

INIZATION OF THE SPINAL CORD.

now nearly sixty years since the introduc-
the habitual employment of narcosis during

operations by means of ether or chloroform. In view of the many inconveniences and dangers attendant on anesthesia produced in this way it is surprising that, save for minor alterations, the methods in use to-day are practically those of Long, Simpson, and their contemporaries. The only real advances have been the facilitation of the first stage of etherization by the primary induction of laughing-gas narcosis, the combination of oxygen with the anesthetic, and improvement in the form of inhalers. Experience has shown that the various mixtures of ether and chloroform with the higher members of the petroleum group offers few advantages and real dangers, so that the ideal method of causing insensibility during major operations has not yet been attained.

A step in advance seems to have been made, however, by Bier of Kiel who, in the *Deutsche Zeitschr. fur Chirurgie* for April, relates his experience with an entirely new application of a local anesthetic to produce general anesthesia. By the bold expedient of throwing small quantities of very dilute cocain solution (0.005–0.01 gm. of cocain) directly into the spinal canal he attacks the nerve-roots and ganglia themselves as well as the non-medullated nerve-trunks before their emergence from the spinal column and produces satisfactory anesthesia of the whole body beneath the nipple line. Insensibility is complete seven or eight minutes after the injection, which is done after the manner of Quincke's lumbar puncture, made painless by a preliminary Schleich's infiltration, and continues for about three-quarters of an hour. Strange to say, heat and cold perception and also the touch and pressure senses are preserved, but all impressions of pain are entirely obliterated. Because of this, and inasmuch as it seems incredible that the entire thickness of the large nerve trunks should be permeable by the solution in so short a time, the inference is drawn that the pain-conducting fibers are placed at the periphery of the nerve-bundle.

Bier performed in this way such severe operations as osteoplastic resection of the ischium, knee-and [illegible] ankle-joints, necrotomy of the tibia, resection [illegible] femur, etc., to the perfect satisfaction of the p[illegible]ptic [illegible]tes. By experiment on himself and a colleague [illegible] proved that the anesthesia was absolute and [illegible] duction unaccompanied by unpleasant sensat[illegible]

Unfortunately for the vogue of the new method, however, the after effects are quite as undesirable and much more prolonged than those following chloroform or ether, and consist in dizziness, severe headache, nausea, and vomiting. As these symptoms do not put in an appearance till a number of hours after the operation it is assumed that they are due merely to the disturbance of the cerebrospinal system and not to any direct toxic effect of the drug, and it seems probable that modification of the solution employed may eliminate these difficulties.

While in its present form suitable only for individual cases where the use of the usual anesthetics is inadmissable, the idea is a very promising one and opens up a most suggestive field for investigation.

ECHOES AND NEWS.

Another Honor for Dr. Jacobi.—The Society of Obstetrics, Gynecology, and Pediatrics of Paris, at its session, June 2d, elected Dr. Abram Jacobi to foreign membership.

Oysters and Typhoid Fever.—The report of the Health Officer for Brighton, England, states that "in 41.8 per cent. of the cases of typhoid fever occurring in Brighton during 1898, there is a high degree of probability that sewage-contaminated shell-fish were the cause of the attack." This percentage is higher than in previous years.

Dr. Cleaveland Free.—The case against Dr. Trumbull W. Cleaveland, who was charged with having caused the death of the child Irene Carhart, by improper prescribing, was dismissed on June 23d, the defense having put none of its witnesses or experts upon the stand.

Cerebrospinal Meningitis in the United States. — At Shreveport, La., two deaths from this disease occurred during the week ending June 10th, making a total of twenty-nine deaths from this cause since January 1, 1899. In the District of Columbia five deaths were reported during the week ending June 20th. At Philadelphia for the week ending June 17th, four cases and three deaths were reported.

A Yellow-Fever Cure?—After independent experiments extending over a period of two years, Dr. Alvah H. Doty, Health Officer of the Port of New York, has produced a serum corresponding to that of Professor Sanarelli which he considers both prophylactic and curative in yellow fever. While using this serum it would be just as well not to neglect principles of sanitation such as General Wood has found an almost perfect safeguard against the disease in Santiago.

Germany's Object-Lesson in Vaccination —Germany, with a population in 1871 of 40,000,000, lost during that year 143,000 lives from smallpox. In 1874 the German Government enacted a law making vaccination obligatory during the first year of life, and revaccination obligatory

at the tenth year. The result was that the mortality from smallpox diminished rapidly, until now its victims number only 116 a year, and these cases are confined almost exclusively to the frontier towns.

Contagious Diseases in New York City.—The Board of Health makes the following report for the week ending June 24, 1899: Measles, 330 cases and 12 deaths; diphtheria, 198 cases and 30 deaths; laryngeal diphtheria (croup), 7 cases and 3 deaths; scarlet fever, 130 cases and 14 deaths; smallpox, 2 cases and 2 deaths; chicken-pox, 21 cases and 0 deaths; tuberculosis, 165 cases and 145 deaths; typhoid fever, 16 cases and 5 deaths; cerebro-spinal meningitis, 0 new cases and 7 deaths.

The "Index Medicus."—The widespread regret felt because of the possible abandonment of the *Index Medicus* has been partially dispelled by the prospect of the work being assumed by the American Medical Association. The resolution introduced at the recent meeting at Columbus that the Association take upon itself the editing and publishing of the *Index Medicus* has been referred to the trustees, who have taken it under serious consideration. As far as the benefit to the medical profession of America, or even to the world, is concerned, the Association by undertaking this work would accomplish far more than by devoting its efforts and finances to the proposed erection of elaborate and expensive buildings.

The "Philadelphia Medical Journal" and the American Medical Association.—Our Philadelphia contemporary takes a most hopeful view of the future prospects of the Association. It says: "It is character rather than numbers that inspires us with hopefulness Even in such a matter as personal ethics and dignity there was at Columbus a most noteworthy absence of what has previously been an altogether too conspicuous presence of the guzzlers and 'all-nighters.' There were even strange stories of '*Nothing stronger than lemonade, please, this year.*" and the banquets, even that of the so-called American Medical Editors, were free from stories in which the delight in witless filth has often been an astonishing element of attractiveness. There is plainly to be an end of the 'dry-smoker' and the roysterer."

Convention of Homeopathic Physicians.—The fifty-fifth annual session of the American Institute of Homeopathy opened in Atlantic City, New Jersey, on June 20th. There were over 1400 Hahnemannians in attendance. A report was adopted recommending that interference of opticians with the medical profession be deprecated. The following resolution was offered by General M. O. Terry of Utica, N. Y., ex-Surgeon-General of the National Guard of New York: "*Resolved*, That in the opinion of this association, the oldest National medical organization in the United States, the condition of the country and its standing among the progressive nations of the world demand for its medical department a position in the Cabinet equal in all respects to the other departments of the Government."

Criminal Attempt to Avoid Service in the German Army.—The wealthy young men of Germany present a striking contrast to the same class in our own country. It is reported from Cologne that a number of prominent physicians and wealthy young men who have succeeded in being exempted from military service, unlawfully, are involved in a criminal case which is assuming alarming proportions. There are now seventy-two defendants. The trick in most instances was to render the men called for physical examination temporarily unfit by administering strong doses of heart depressants sufficient to produce fluttering of the heart and other alarming symptoms. The Emperor has ordered a thorough investigation, without regard to whom it may hit. Several of the accused men are sons of rich Cologne bankers.

Unselfish Devotion to Medical Duty.—The English medical journals commented recently in glowing terms on a very striking example of unselfish devotion to duty on the part of an English medical man. Dr. R. J. Burns of Sunderland was summoned to attend a man who had swallowed some phosphorus paste in beer. He came provided with a stomach-pump but the instrument unfortunately was out of order. The doctor passed the stomach-tube and proceeded to empty the man's stomach by suction on the tube. His patient recovered only temporarily though so faithfully were the doctor's efforts that he himself has since been prostrated with some symptoms of phosphorus poisoning, partly from the effect of the fumes developed during the operation, and partly from actual absorption of the phosphorus through his oral mucous membrane. He has, however, now entirely recovered.

American Troops in the Tropics.—Major George G. Gross, U. S. A., in a paper read at the recent meeting of the American Medical Association said: "In the selection and care of troops for the West Indies none but entirely sound men should be sent to these islands. No recruit under twenty-one years should be sent, and it would be better to make the minimum age twenty-two years. There should be no 'toughening' the troops on Florida sand-banks or by forced marches under a Virginia or Georgian sun. The transport service must be improved. At once, reaching the tropics, the men must be housed. The rations should be modified. Still further changes are needed in the uniform. Something lighter than the khake uniform for wear on marches and in the hottest weather. While it is true that the history of the Caucasian race in the West Indies is not encouraging, yet these islands produced a Hamilton and a Josephine. Bad laws and bad social conditions, rather than the climate, have probably defeated the ends of Nature."

The William F. Jenks Memorial Prize.—The fifth triennial prize of $500, under the deed of trust of Mrs. William F. Jenks, will be awarded to the author of the best essay on "The Various Manifestations of Lithemia in Infancy and Childhood, with the Etiology and Treatment." The prize is open for competition to the whole world, but the essay must be the production of a single person. The essay, which must be written in the English language, or if in a foreign language, accompanied by an English translation, must be sent to the Col-

lege of Physicians of Philadalphia, Pennsylvania, before January 1, 1901, addressed to Richard C. Norris, M.D., Chairman of the William F. Jenks Prize Committee. Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

Aseptic Duelling.—The newspapers announced recently that the well-known French author, Catulle Mendes, had been wounded in a duel, the grounds for which had been the fact that he held the contradictory proposition to his opponent in the very important historical question, Was Shakspeare's Hamlet fat? Some of the details of the duel are of considerable interest to medical men. For instance, whenever the sword of either one of the duellists touched the ground the duel was instantly interrupted until the blades had been thoroughly sterilized by being passed through the flame of an alcohol lamp. What was especially feared and the reason for these minute precautions was contamination with tetanus bacilli. Not long ago a French surgeon issued a book giving the indespensable regulations for the proper conduct of a surgeon when summoned to a duel, which included the most rigidly surgical sterilization of the duelling swords, and their careful preservation in a state of the most absolute asepsis until the moment they were handed to the combatants, special care being prescribed that no hands came in contact with the blades before they were put to use. The interruption in order to resterilize whenever possible contamination is suspected is the very latest wrinkle and all up to date. Specialists in duelling surgery will, it is hoped, take note of this latest humanitarian addition to the surgical technic of the duel.

The State Board of Charities and the Society for the Prevention of Cruelty to Children.—Justice Barrett of the Appellate Division of the Supreme Court handed down a unanimous opinion on Friday, June 23d, declaring that this Society is a charitable or eleemosynary institution, and as such subject to the powers of visitation and inspection of the State Board of Charities. The very fact that such societies are clothed with peculiar and even extraordinary powers instead of indicating that the Legislature or the people meant to withdraw these societies from the supervisory powers of the State Board of Charities seems rather to suggest a conclusive reason why they should be supervised, and indeed quite as vigilantly as institutions possessing less power for good or evil. Mr. De Lancey Nicoll, counsel for the Society, says that the present decision will not be accepted as final, but that the matter will be taken to the Court of Appeals. The investigation into the affairs of the Society which is being conducted before Albert Stickney brings out clearly that the police department and the district-attorney's office consider the Society to be not only useful to them but needful. At least one judge and one police magistrate declared that the Society's records were practically indispensable when the question of the disposal of children came up before them. All of them were asked if they thought that a city department could accomplish as well the work now done by the Society, and replied in the negative. Certain recent newspaper allegations as to the shirking of taxes by the Society were shown on direct evidence to be practically without foundation.

Obituary.—Dr. Thomas Osmond Summers, late surgeon-major in charge of the fever hospital at Santiago, and a noted yellow-fever expert, committed suicide by shooting himself through the head at St. Louis, June 19th. Despondency caused by the fancied lack of appreciation of his services by the Government during the Spanish War is supposed to have been the cause. Dr. Summers was Professor of Anatomy in the St. Louis College of Physicians and Surgeons, and was the author of several standard medical works. He gained an enviable reputation in his successful management of the yellow-fever epidemic at Memphis in 1878. The agony of mind that Dr. Summers evidently suffered previous to committing the fatal act was shown by a most touching farewell letter to his wife, and his farewell to earthly existence is forcibly and poetically expressed in the following lines, which were found after his death:

PERDITI VITUM—VALE MUNDUM.

Good-night, Old World—Good-by to all your joys,
Your sorrows, pleasures, passions, pomps, and noise.
I leave you for the eternal silence of stars;
The deepness of unbounded space where bars
No longer hold the soul in durance vile.
Where naught can wound and nothing can defile;
Where the pure spirit shall despise the things
The sense on earth hath loved.
On wings bathed in the ether of eternity,
How sweet to feel from every passion free—
And yet it is an awful leap to take.
Into the great unknown perchance to wake
To greater woes, indeed, than those we have
And hoped to bury in the silent grave.
But still the greater majority is there.
Why then should we turn pale with fear?
Or tremble when the hour supreme has come,
As soon or late it must?—Man's final home—
The grave—at least gives rest from troubles here,
And we may hope for sweet oblivion there.
Then, Charon, come, I signal thee to-night,
Come—row me o'er the Styx, I've lost life's fight.
OSMOND.

Another Miracle by the Osteopath!—That the age of miracles or fairy tales has not yet passed away is shown by the following, which was telegraphed a few days since from New York to a Western newspaper, and duly appeared in its columns: One of the most unusual operations yet recorded in surgery was performed recently on a young woman in this city, by which was effected the cure of a case of appendicitis. No knife was used, no medicine, no poultices, no ice-packs—none of the usual methods of physicians to treat this most serious of ailments. So simple was the method employed that only eight minutes elapsed from the time the physician reached the patient until he had completed his work, and, as he believes, successfully. The young woman is twenty years old, and belongs to an excellent family in Harlem. The doctor who performed the operation thus explains

the treatment: "The method of treatment is the one used by all osteopathists and has been in use by them for some time." To demonstrate, the doctor placed the thumb of the reporter's left hand flatly in the palm of his right hand. Then he slapped the palm of the hand smartly against the broad of the thumb. "The hand represents the psoas muscle," he said, "and the thumb the appendix. We produce a spasmodic contraction of the psoas magnus, like the slapping of the palm of the hand against the thumb. This forces the foreign substance from the appendix, and relief follows immediately. Just back of the appendix is the largest muscle in the human body, known as the psoas magnus. It is attached to the femur or big bone of the leg, and is the muscle by which one can revolve the leg as a pivot at the heel. It is this muscle which is made to do the trick of emptying the appendix. Using the fingers of one hand to hold the walls of the abdomen in place and to prevent a rupture of the delicate internal structures, with the other hand a spasmodic contraction of the psoas magnus is brought about, which snaps it against the appendix and is said to force out of that organ whatever of foreign substances it may contain." Angels and ministers of grace defend us in this the dawn of the Twentieth Century!

Dispensary and Hospital Abuse.—The agitation upon the subject of the abuse of dispensary and hospital charities, which has been created by the medical profession and vigorously maintained during the past few years, shows evidence of bearing fruit. The Dispensary Law, passed by the New York Legislature last winter, has placed in the hands of the State Board of Charities the power to correct abuses. This board, together with the New York City comptroller, is now taking active steps looking to immediate reformation of the present wasteful methods. Mr. Coler, the city comptroller, arraigns the present system of distributing charitable funds as follows: More money is contributed for charity than can be expended properly for charitable purposes and the result is the creation of a class of artificial dependents. (2) Enormous sums intended for the relief of the poor are wasted in costly buildings and large salaries. (3) Private charities, partially supported by the city, draw from the institutions wholly under city control to such an extent as to impair the latter's usefulness. (4) No adequate account is made of money received and expended. (5) Certain charities are run for the principal object of drawing money from the city and spending it. In support of the first count in his indictment the comptroller points out that while the pauper population of the city amounts to only one per cent. of the total, no less than seventy per cent. are receiving medical treatment free of charge through charitable institutions. Public and private charity expends annually, in New York State, more than $20,000,000, in the support of unfortunates who are not criminals. More than one-fifth of this great sum goes for salaries alone. Speaking generally it costs, under the present method, $25 to distribute $75 in charitable work. Many of the charitable institutions of New York City make a practice of paying canvassers for contributions a percentage of all the money they bring in. The comptroller points out a striking instance of abuse in this connection. He is an honorary vice-president of the Moderation Society, the purpose of which is to supply ice-water in summer in order to prevent the use of intoxicants. The city appropriated for the use of this society, $250. A few days later Mr. Coler received a letter saying, that no doubt he would be glad to know that the man who brought the city's check to the society received $25, or ten per cent. of it, for his trouble.

CORRESPONDENCE.

THE AMERICAN MEDICAL STUDENT ABROAD.

MEDICAL WORK FOR WOMEN IN VIENNA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Practically, a woman's opportunities in Vienna for regular medical work are as great as those of a man, although a few professors still refuse to admit women to their lectures and operations. The university of Vienna, founded in 1365, conferred its first degree upon a woman—that of Doctor of Medicine—in 1897.

We made it a rule to ask permission of each professor, *docent*, or assistant, before entering his clinic or operating-room, and thus were always sure of a friendly reception. We have been told that failure to observe this rule sometimes resulted disastrously. Letters of introduction from eminent physicians may be of great value; letters from former students are generally disappointing, because, in the rapidly changing classes, names are likely to be forgotten. A fair knowledge of German is, of course, indispensable to one's best work. If necessary, it is an actual saving of time to devote oneself, at the outset, to serious study of the language.

The unlimited university course can be entered at any time by making application to the medical department of the university, but the courses most popular with foreign doctors are private and are difficult, sometimes impossible of access. Many of these courses are organized, and in a measure controlled, by English or American doctors, to whom application must be made. It is advisable to arrange some time in advance for a place in a popular course, as places have often been engaged months, even a year before they were to be used. By writing to the Anglo-American Vienna Medical Association, I Landesgericht-strasse 12, one can obtain the latest information. The regular university program and programs for vacation courses are useful in planning one's time.

The work in medical diagnosis is unequaled. It would be difficult to imagine a more thorough system of physical examination and instruction. One is filled with admiration for the skill of men who have for years enjoyed the advantages of a free use of unlimited material, with opportunity to test the diagnosis of every fatal case at the autopsy-table. The hospital wards are freely accessible to students, and one can spend hours daily in the study of cases with the most advanced aids to diagnosis at one's command. The clinical material both as to adults and children is enormous. There are fine advantages for studying infectious diseases, especially scarlet fever

and diphtheria. The post-mortem room is open to all students.

In the pathological and bacteriological laboratories there is a vast quantity of fresh material, with skilled direction in exhaustive macroscopical and microscopical study of pathological findings. Advanced students desiring to do research work are cordially welcomed, and assisted in making an *arbeit* worthy of the department.

Excellent diagnostic courses in surgery, with operative work on the cadaver, are obtainable. It is possible in a few clinics to get minor surgical work, and some who have been willing to serve a couple of years in a clinic have had the privilege of assisting the professor at major operations, and also of performing a certain number.

The courses in gynecology are very good and include examinations under ether, some small operations, and general treatment; larger operations are almost out of the question for doctors not regularly appointed as *operateurs*. The obstetrical advantages are confined to diagnostic work, with operative work on the *phantom* and cadaver. By special favor and large expenditure of time one may be allowed some deliveries, with a case or two of low forceps. The number of *operateurs* has been so much increased during the past ten years that there is nothing left for students. By securing permission to visit the three obstetrical clinics—total deliveries in a year, nine or ten thousand—one can, in a short time, watch a large number of cases and see considerable interesting operative work.

On special subjects there are numberless courses, some of which are exceptionally good: for instance, exceedingly valuable skin clinics, and embryological and anatomical courses on special organs finely illustrated. One great advantage of medical work in Vienna is its concentration, making it possible to take a variety of work without the loss of time entailed in constantly traversing a great city.

The criticism often justly passed on American students is that they spread their energies over too much ground, and by a multiplication of courses fail to get the best advantages and privileges from any.

Expenses naturally vary with a student's individual needs and tastes. The fee for each member of a course in obstetrics, gynecology, and operative work is 2½ guldens, or about $1 per lesson; for other work generally 1 gulden. The tickets for university courses cost only a nominal sum. German lessons range from 40 to 50 cents an hour, and sometimes it is possible to exchange English for German lessons. Room and board may be obtained for from $25 a month up, exclusive of various fees.

In conclusion let me say that we were strongly advised not to go to Vienna to study as the prejudice against women in medical work was said to be too strong to make such an attempt worth our while. On the contrary, we cannot speak too highly of the unfailing kindness and generous hospitality extended to us as colleagues during a two-years' stay.

ANGENETTE PARRY.

NEW YORK, June 19, 1899.

RELAPSING MEASLES.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I have noticed in recent issues of the MEDICAL NEWS your remarks anent relapses of measles, also Dr. Coleman's letter.

We have just had an epidemic of measles of an extremely severe type, and I have been much interested in two cases, a brother aged fourteen, and sister aged ten years, who are neighbors. Both of the children, so their mother assured me, had undoubtedly cases about nine years previously, and were the only two cases out of six that did relapse.

The boy was first attacked and had an extremely severe spell, with grave symptoms. He made a beautiful recovery, but about sixteen or seventeen days afterward had a mild attack, the fever lasting only a day or two, and the eruption disappearing in about forty-eight hours. The little sister had a very mild spell, fever three or four days, with an eruption thinly spread over entire body. She was soon up and at school again. About one week later she developed the initial symptoms, and had one of the severest attacks I ever witnessed. She is now up and about, but wears dark glasses to protect the eyes.

These two cases occurring under my eye offer this suggestion: Are not some people more liable, or rather more sensitive to infectious fevers? Is it not possible that relapsing measles occurs most frequently in those not rendered immune by a previous attack?

I offer this as an observation and trust others will be heard from on the subject. J. C. BALLARD, M.D.

NATCHEZ, MISS., June 20, 1899.

CONGENITAL ABSENCE OF UTERUS, OVARIES, AND THE CLITORIS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—We wish to report an unusual case of congenital absence of the organs of generation— uterus, ovaries, and also the clitoris. Jeanette T., aged twenty years, mulatto, well developed; came from a healthy family. The general figure is that of a slender boy—shoulders square, hips narrow, legs slightly bowed. Mammary glands well developed. External genitals appear natural. The parts are well covered with hair, with growth peculiar to females.

Digital examination revealed an apparent imperforate hymen, tough and fibrous, with slight elevation, or folding near the center. On chloroforming, and using Sims' speculum, the following conditions were seen: The vagina was only a shallow pocket, with the meatus opening very near the center of the canal. The lesser labia appeared normal. No clitoris could be seen or made out.

The bladder was emptied with a catheter, and using the instrument as a sound examination was made with a finger passed into the rectum. As high up as it was possible to reach neither uterus nor ovaries could be felt. Nothing intervened between the finger and sound save the perineal body low down, and above only the walls of the rectum, and the bladder. After close search in this way and bimanually none of these organs could be made

out. The pubic arch was an acute angle (exaggerated male), the anteroposterior diameter not more than 2½ inches.

This woman (?) has never menstruated. Has suffered with periodic headaches, and has had an occasional attack of drowsiness. She stated that she had never felt passion for man or woman.

J. A. JAMES, M.D.,
T. H. JAMES, M.D.

CHERAW, S. C., June 17, 1899.

PARTIAL CONSCIOUSNESS DURING ANESTHESIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In the issue of your journal for May 20, 1899, appeared a communication from Dr. H. H. Stoner, in explanation of the possibility of retaining consciousness during anesthesia in so far, at least, as auditory impressions are concerned, that in spite of its "extremely fanciful hypothesis" has a great deal in its favor. It may be true, as you said in your editorial foot-note, that the neuron theory has never been extended to the psychic phenomena in print, but I must admit that I have personally held this opinion for some time.

We know that brain substance is composed of neurons and neuroglia or brain-cells and matrix, each brain-cell with its dendrites and its axis cylinder. The researches of Max Schultze have proven that the nerve fibrils composing the neuroglia or ground-substance of the brain are continued directly through the axis-cylinder of the cell, thus forming a direct means of communication between all active brain-cells having medullated axis-cylinders or neuraxons. Sir W. R. Gowers[1] has shown that there is every reason to believe that the individual brain-cells or neurons have no direct communication by means of their dendrites, but lie separately embedded in the matrix, each neuraxon in close proximity to a dendrite, both possessing an afferent and efferent molecular motion respectively. Now, if besides this afferent molecular motion each dendrite has an actual motion, capable of making contact with its nearest neuraxon—and there is no reason why this should not be, though it might be hard to prove—we could then understand the mechanism for the transmission of nerve impulses through the brain. If we look upon the brain as a vast battery composed of millions of cells, each cell (neuron) having a positive (neuraxon) and negative pole, the latter having several shunts (dendrites), lying close to but not touching the opposite pole of its nearest cell; if we assume some simple arrangement by which this positive pole becomes magnetic as soon as the cell is thrown into the circuit, thereby attracting the nearest negative shunt of some other cell and so throwing it into circuit, and so on from cell to cell, we have a simple explanation of impulse transmission in the brain, and this theory, whether right or wrong, must at least be considered plausible. Now, if this holds good for the sensory-motor part of the brain, there is no reason to doubt that it also holds good for the ideomotor part, the psychic centers in the cortex: for psychic, sensory, and motor phenomena are as interconvertible as the phenomena of electricity, light, and motion. As one writer has said: "We think as we feel, or think we feel; and feel as we think. If we feel a pain, we think we are ill; and if we think we are ill, we feel ill." If hypnotism has been of no other practical value, it at least has proven the correctness of the above statements, and all students of this psychic condition know how easy it is to change psychic, sensory, and motor phenomena one into the other.

By means of this neuron theory I have been enabled to explain to myself, at least to my own satisfaction, how Heidenhain's theory of cortical inhibition during hypnosis might be the correct explanation of these phenomena. I advance this not as an original idea, for in this age of omnivorous reading one hardly knows when one has an original idea, but as the outcome of reading and thinking. Those who have studied hypnotism not only from a practical but from a theoretical point of view, no doubt have come to the conclusion that hypnosis is a mental state similar to that of preoccupation and reverie, when that mental activity called "attention"—I say activity, because it is the result of will—is focussed on any one thought or line of thought and thereby frees the lower sensory-motor centers from the control of volition, enabling them to perform work automatically and without conscious knowledge. If the theory of dendrite make-and-break contact advanced above be true, it can easily be seen how in the ideomotor centers of the cortex this dendrite contact of the neurons could be brought about by the psychic activity of attention, and that when this activity is focussed, as in preoccupation or reverie, or paralyzed, as in hypnosis, the entire mass of psychical neurons would have to become isolated from the rest of the brain cells, and that there would have to result an absolute and utter inhibition of volition on the one hand and an equally absolute inability to consciously recognize sensory irritations, such as pain, on the other; such at least is the experience of all students of hypnotism, whether the theory advanced in explanation of it is true or not. Those who have studied the practical side of hypnotic phenomena know that chloroform is a great help in producing hypnosis where a simple focussing of the attention with proper suggestions has no effect, in fact the inhalation of a few drops of chloroform with the simple suggestion of "shut your eyes and go to sleep" repeated a few times, often has the effect of at once producing deep hypnosis with peripheral anesthesia. If the anesthetic is now withdrawn, the patient is in the hypnotic state, the muscles generally cataleptic, and under the control of the operator's voice; if the anesthetic is pushed beyond this, the catalepsy disappears and the muscles become flaccid with absolute anesthesia, so that there is not even a corneal reflex, but the patient is still in hypnosis, subject to the operator's control, remembering frequently everything that happened in this state on waking, and waking at once at the operator's command. If the chloroform is pushed beyond this stage, then results chloroform narcosis, and the subject is no longer under the operator's control.

Such is my experience with some six or seven cases,

[1] *Brit. Med. Journal*, November 6, 1897.

the first one happening some years ago, when I had a simple minor operation to perform and intended to use hypnosis for anesthesia, but could not get my patient under control, so decided to give chloroform. When fully anesthetized, as I thought, I handed the inhaler to an assistant and proceeded with the operation, amputation of a finger. When ready for the stitches, I had the chloroform removed, so that it was used only a few minutes, and I was certainly surprised to hear the patient answer a question I put to him a little while later, when he still seemed fast asleep. I found then that he had never been chloroformed at all, but had been in a hypnotic sleep, and he obediently awoke at my command, with a pretty good memory of all that had been said but with no recollection of pain. Since then I have tried this experiment in several instances and lately had a case that afforded ample room for study. I had a patient whom I desired to make somnambulistic in order to have her carry out post-hypnotic suggestions, but I could never produce sleep sufficiently deep, so I used chloroform, which frequently is a great help in such cases, and though it never produced somnambulism in this case, it at least gave me a good opportunity to study the effect of hypnosis and chloroform used together.

From what I have written, it will appear that I agree in the main with Dr. Stoner's explanation and yet I go further and claim that the operation done by Dr. Goldan was not done during chloroform narcosis but during hypnotic sleep.

JOHN R. ROSE, M.D.

EASTMAN, GA., June 22, 1899.

NOTES FROM SWITZERLAND.

[From a Special Correspondent.]

ANOTHER TOTAL EXTIRPATION OF THE STOMACH—INCREASE IN INSANITY IN SWITZERLAND—PROPORTION OF WEAK-MINDED CHILDREN—ILLEGITIMACY—ALCOHOLISM AS A CAUSE OF MORTALITY.

BERNE, SWITZERLAND, June 17, 1899.

ANOTHER case of total extirpation of the stomach for carcinoma of the pylorus remains to be recorded. It was performed by Dr. Kocher in his clinic on Friday, June 9th. The patient was a woman of about forty years of age, very emaciated and with marked cachexia. She had been under treatment for some time on the medical side of the hospital in order to prepare her for operation. Upon opening the abdominal cavity the case was thought favorable for a total removal of the stomach, on account of the absence of lymphatic involvement, so this was done, great care being exercised to save as far as possible all vessels concerned in the nutrition of the large intestine. The stomach was removed as a whole, including the cardia and about 4 cm. of the duodenum. An anastomosis was then made between the esophagus and duodenum and the abdominal wound sutured, leaving a small opening for a glass drainage-tube.

The patient recovered from the operation very well. She was fed per rectum and was seemingly on the high road to recovery until the morning of the third day, when without apparent cause she died. At the autopsy it was found that in spite of the great care during the operation not to interfere with the intestinal circulation, there was a small area of necrosis in the wall of the transverse colon, sufficient to give rise to a mild peritonitis, which was enough in the poor condition of the patient to cause her death. The esophagoduodenal anastomosis was in good condition and partly healed. In all, the patient lived three and one-half days after the operation.

This is really the second case of total extirpation on record. The Zürich case was, strictly speaking, not a total extirpation since part of the cardia was left. Both the San Francisco case and the Berne case proved fatal. The great danger evidently is in the vast circulatory disturbance which is caused in the intestinal tract as well as the interference with the abdominal sympathetics.

Switzerland is indeed a country of antitheses. It contains some of the grandest scenery and health-giving atmospheres in the world, and yet its people are troubled with some of the worst afflictions. Out of a population of a little over 3,000,000, its twenty State insane asylums contain, according to the last report, 6164 inmates, an increase of about 200 over the previous year. Females predominate slightly over males. The cost to the State for the keeping of each person is given as about 250 francs ($48.25) per annum.

There are no laws for the commitment of the insane; no judicial proceedings, such as a trial before a competent court or expert commission, is necessary. All that is needed to commit an individual to an asylum is the certificate of one physician; whether he be an alienist or not makes no difference.

The proportion of weak-minded children is also unusually large. Recent statistics have shown that in all the cantons of Switzerland there were in the primary schools 13,155 weak-minded children. The total number of pupils in the schools at the time the figures were obtained was 463,548, so that in each 1000 there were 16.5 who were in greater or less degree weak-minded. Aside from these, there were 7667 children who were lacking in development in some respect or other. Of these, only 1082 received special attention in special classes.

It is said that one out of every five children born in Switzerland is illegitimate. The reason for this high rate of insanity and defective mental development among children may be looked for in the customs of the people. The Swiss cling to the customs of their ancestors even though the conditions under which their ancestors lived comfortably have changed so as to make their customs impracticable and bad now. The laboring class, including the farmer, works unusully hard, most of the work falling upon the women. The pregnant woman works just the same as the rest, and I have seen women cleaning the streets of Berne who were apparently near full term. The children are also made to work hard. In consequence they are dwarfed and stunted, both physically and mentally.

Alcoholism is getting to be quite an important cause of death in Switzerland, as well as in France and Germany. For the first three months of the past year, namely, from

January 1 to March 31, 1898, there were, between the ages of 40 and 59, 57 men who died from this cause. The total number of deaths among men of this age was 378, so that 15.1 per cent. were due to alcoholism.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

ANOTHER DEATH FROM FAITH-CURE PRACTICES—A CASE OF "SLEEPING SICKNESS" IN PHILADELPHIA—NEW LABORATORIES OF THE MEDICO-CHIRURGICAL COLLEGE—FIFTIETH ANNIVERSARY OF THE NORTHAMPTON COUNTY, PA., MEDICAL SOCIETY—COMMENCEMENT OF THE UNIVERSITY MEDICAL SCHOOL—STATE BOARD EXAMINATIONS—AMERICAN NEUROLOGICAL ASSOCIATION—PERSONAL—VITAL STATISTICS FOR THE WEEK.

PHILADELPHIA, JUNE 26, 1896.

STILL another dupe of the "faith-cure" propaganda has exhibited his belief to a degree incompatible with the continuance of life. This time the victim was a middle-aged and, in other matters, apparently intelligent tradesman, a Mr. Joseph McCraig, who left his home in West Virginia and came to this city to place himself under the instructions and care of a local "faith-curist," William J. Randall, D.C.S. Although this William J. Randall, D.C.S., holds forth in handsomely appointed offices in a prominent office-building in this city, and from external appearances seems to enjoy a very fair degree of prosperity, all this availed Mr. Joseph McCraig nothing, and he died and was properly buried, for he happened to be suffering from an organic heart-lesion, with widespread evidences of compensatory failure. With infantile artlessness William J. Randall, D.C.S., wriggles out of the legal questions involved in Mr. Joseph McCraig's demise. "Christian Science," he remarks, "is teaching the gospel; healing the sick is the smallest part of it. I do not administer drugs. God is the healer. I never say anything about charges. We think that preaching the gospel and healing the sick go hand in hand." He positively denied ever having received money from his late patient, either for reading the gospel or for healing, although he admitted that in other cases the amounts paid to him for "reading," whatever that may indicate, are according to the circumstances of the patient. As it could not be proved that he had prescribed medicines or received a fee for treatment without having the requisite license the coroner turned William J. Randall, D.C.S., loose to browse about on his old stamping-ground, and illegitimately collect money from other dupes possessing more hallucinations than sober judgment.

In view of the present development of general interest in tropical diseases it is not without interest to note that a probable instance of African "sleeping-sickness," or "negro lethargy," occurred in this city during the past week. The patient, a medical missionary, lately returned to this country from Africa, died in one of the city hospitals of an obscure disease contracted in the tropics, and thought to be a genuine case of that fatal malady known as "sleeping-sickness." The patient had spent the last nine years of her life in the Congo Free State, and was attacked eighteen months ago with a characteristic train of symptoms, such as facial edema, progressive wasting and loss of strength, bodily fatigue, torpor, intense apathy, and certain sensory and motor-nerve disturbances. The progress of these symptoms was uninterrupted, even after her return to a temperate climate, and the patient died after an illness of more than a year and a half. Post-mortem examination failed to reveal any typical lesion of the disease in question, but this is not unusual, in view of our limited knowledge of the post-mortem conditions to be sought for. Nor was it possible to demonstrate in the blood embryos of the *filaria perstans*, which form of filariasis, it will be recalled, is conditionally mentioned by Manson as a possible etiological factor in the "sleeping-sickness" common among the negroes of the Congo and of Senegal.

Work has begun on the new clinical laboratories of the Medico-Chirurgical College and Hospital. The design of the building will be a pure example of Grecian architecture; it will have a frontage of 72 feet and a depth of 99 feet, and is to be 5 stories in height, constructed of Pompeiian brick, terra cotta and brown-stone, on a steel skeleton. The first floor is to furnish accommodations for a number of the hospital out-patient departments, a large general lecture-hall will occupy the second floor, and the three upper floors will be devoted to laboratories of chemistry, physiology, anatomy, histology, and pathology. The cost of the new building is estimated at $125,000, and it is proposed to have it completed and equipped for the reception of students by the middle of next October.

The fiftieth anniversary of the Northampton (Pa.) County Medical Society was celebrated June 13th, at Easton. Dr. Amos Seip of Easton, the only survivor of the twenty-two original members of the society read an interesting retrospective address on the history of the society. Addresses were also delivered by Dr. Charles McIntire, the president, Dr. John B. Roberts, representing the Philadelphia County Medical Society, and by Drs. W. Murray Weidman of Reading, and L. H. Taylor of Wilkesbarre, and by prominent representatives of the clergy and bar in this State.

The annual commencement exercises of the Medical Department of the University of Pennsylvania were held June 15th, in the Academy of Music, in conjunction with those of the other departments of this institution. Degrees of Doctor of Medicine were conferred upon 211 graduates of the medical school, and the annual oration was delivered by Hampton L. Carson, Esq. The annual business meeting and banquet of the Society of the Alumni of the Medical Department was held June 14th, and the following officers were elected: President, Dr. Meredith Clymer; vice-presidents, Drs. John H. Packard, James Tyson, S. D. Risley and Charles K. Mills; secretary and treasurer, Dr. S. D. Wadsworth. About 100 members attended the banquet, among those present being Dr. Thomas Dunn English, of the class of '39, famous as the author of the ballad, "Ben Bolt." Speeches were made by prominent members of the faculty of this and other local medical schools.

The examination of applicants for licenses to practise medicine in Pennsylvania began June 20th, simultaneously

in Philadelphia, Harrisburg and Pittsburg, and continued four days. A general average of at least seventy-five per cent. is required to qualify before the three boards, regular, homeopathic, and eclectic; and the candidate must stand examination on the subjects of anatomy, physiology, pathology, practice of medicine, surgery, materia medica, obstetrics, therapeutics, chemistry, diagnosis, and hygiene. The applicants this year numbered 380.

The twenty-fifth annual meeting of the American Neurological Association was held at Atlantic City, N. J., beginning June 13th. Over 200 members were present to listen to the opening address by the president, Dr. James Hendrie Lloyd of Philadelphia.

Among the prominent Philadelphia medical men who sailed for Europe during the present week were Drs. J. William White, W. W. Keen, and G. E. de Schweinitz.

The number of deaths in Philadelphia during the week ending June 24th was 379, a decrease of 44 from the preceding week and of 8 from the corresponding period of last year. Of the total deaths, 122 were of children under five years of age. The following new cases of contagious diseases were reported: Enteric fever, 48 cases, 9 deaths; scarlet fever, 36 cases, 3 deaths; diphtheria, 61 cases, 20 deaths; and cerebrospinal meningitis, 2 cases, 1 death. The total number of contagious diseases reported this week was 57 less than the week preceding.

OUR LONDON LETTER.

[From Our Special Correspondent.]

MEDICAL COUNCIL AND FOREIGN PRACTITIONERS—PERJURY AT POST-MORTEM—LITERARY AND HISTORICAL MEDICINE—DECISION IN FAVOR OF A PHYSICIAN—DEATH OF DR. NORMAN KERR—ANOTHER AMBULANCE ACCIDENT—"CROSSED APHASIA."

London, June 16, 1899.

The General Medical Council was in busy session all last week under the presidency of Sir William Turner. Several matters of interest and importance were discussed and passed upon, among them two which appeal to the profession outside of Great Britain. One of these was the unexpectedly warm debate which sprang up over the mild suggestion of the Italian Ambassador, transmitted through the Foreign Office, that some sort of reciprocal arrangement should be made for the mutual recognition of English medical degrees in Italy and Italian degrees in England. English medical men have long bitterly complained of the hardship of being obliged to secure the local degree before they are permitted to practise in Italy, where, of course, wealthy invalids of all nations swarm in colonies, and the committee to which it was first referred therefore hailed it as a joyful omen and reported favorably upon it. The storm of indignant protest that burst upon the committee evidently astonished it. "It is the thin end of the wedge;" "if we make this concession to Italy we shall be obliged to extend it to Austria, Spain, the whole of Europe, even the United States;" "what is the use of laboriously building up a high standard of medical education, and then throwing open the flood-gates to the riff-raff of the medical world?" and like frenzied appeals poured in thick and fast. And the finishing touch was given when the supporters of the proposal only ventured to do so on the ground of humanity toward English travelers falling ill in Italy, who might suffer severely if they were obliged to depend solely upon the incompetent ministrations of the average ignorant practitioner of that benighted land.

Altogether the debate was hardly creditable to either the breath of view or the courtesy of the English Medical Senate, although it is quite probable that having relieved their minds and expressed their insular contempt and scorn for "Eyetalians" and "furriners" in general (who may also perchance have had some small struggle of their own for a higher standard) their sense of fair play will assert itself and they will proceed to practically grant the concessions asked for—and then wonder why the foreigner aforesaid is not both grateful and affectionate.

The other matter is the last act in that curious drama of alleged perjury in a post-mortem report, which was described in a former letter. A certain Dr. MacKay was ordered by the coroner to make an autopsy upon a child that had died suddenly. He did so and reported that death had been due to cerebral congestion, but the coroner was for some reason suspicious and ordered a second examination made by the district police-surgeon and another physician, who reported that the skull had not even been opened and that death was due to pneumonia. Whereupon Dr. MacKay was committed on a charge of perjury, but the judge before whom it was tried chose to regard it in the astonishing light of an ordinary "doctors differ" and dismissed the case. The mills of the gods were still grinding, however, and last Tuesday the grist was delivered, after a hearing in person before the full council, in the shape of an order to strike Dr. MacKay's name from the Register, which deprived him of the right to practise in Great Britain. If the executive committees of some of our great national bodies only possessed this right of disciplining gross breaches of professional duty and honor what a bracing effect it would have on our medical atmosphere!

The medical faculty of Cambridge has reconsidered its decision not to hold the usual vacation course in pathology, on account of the death of Professor Kanthack, and announces the course to begin July 6th and to continue six weeks under the charge of Professor Sims Woodhead and G. Strangeways Pigg.

June 11th, was "Hospital Sunday," when most of the pulpits in London had hospital sermons preached from them; followed by a collection for this great charity. The *Lancet* has issued its annual Hospital Supplement, giving an admirably clear statement of the purposes for which these funds are urgently needed in future and the uses which have been made of them in the past.

One aspect of the literary activities of our English brethren is distinctive and worthy of imitation, and that is the prominence which is given in their society proceedings to the literary and historical aspects of medicine. Two papers of this character have been read before prom-

inent medical bodies during the past few weeks, one by Mr. Albert Doran, on "The Medicine of Shakespeare's Time, as Presented in His Writings," a witty and most ingenious piece of work, consisting chiefly of one continuous stream of "quotations in solution," as Charles Lamb called them. The other was an address by Dr. Vivian Poore, on "English Medicine in the Eighteenth Century," a most entertaining sketch of our fathers in medicine, their personalities as well as their work. A capital story is related of the famous Radcliffe, court-physician to Anne and William III., but celebrated for his most uncourtly manners. The king, who was suffering from dropsy, called him in and showing him his swollen legs asked him what he thought of them. The soothing answer was jerked back: "I would not have your Majesty's two legs for your three kingdoms." He was not called again to that case. It was Radcliffe who founded the great Radcliffe Library at Oxford, although it was his boast for a long time before his death that he had not read a book for thirty years. Indeed, a wit of the time declared that for Radcliffe to leave his fortune to found a library was like a eunuch endowing a harem.

A case of some interest to physicians has just been decided in the courts. A clergyman refused to pay a bill of $35 for services rendered to his wife, mother, and son, on the ground that the doctor had not used "modern scientific methods of examination" and make a mistake in diagnosis. On taking one of the patients to Germany this mistake was set right and a cure promptly followed. We have all met just that variety of cleric and it is a comfort to know that an unabashed judge ordered him to pay the account on the ground that the fact of his deliberately choosing Dr. Collins and putting him in charge of the cases implied confidence in his skill and rendered him liable for all reasonable fees until formal dismissal was made. Why is it that the class which pays the least, often indeed no fee at all, is always the readiest to turn against us and consult a quack?

Dr. Norman Kerr, the well-known specialist in inebriety and medical temperance reformer, died May 30th, at his home in Hastings. He was the author of more than twenty works on inebriety and kindred subjects, and probably did more to promote rational temperance and the medical treatment of inebriety than any other man of his time. We in America remember him gratefully as the man who prevented the Keeley "gold-cure" swindle from getting a foothold in England, by quietly suggesting to the Government that Keeley should be required to give a demonstration of the value of his method before a committee of the Society for the Prevention of Inebriety, upon patients furnished by it, a test which the wily promoter of course dared not submit to, and by his refusal stamped himself as a charlatan, so that the authorities promptly declined to grant any permit for the opening of his institutions.

A dinner was given to Sir William MacCormac last week by all the house-surgeons who had been under him at St. Thomas' Hospital during his twenty years of service. No less than seventy-seven of them were present at the banquet.

It has long been noticed what a curious tendency rare cases have to occur in pairs or trios, and the same seems to apply to accidents. Only last week we reported a death in an ambulance, due to reckless driving, and this week comes the news of a similar accident at Liverpool. A man who had been injured in a street-accident was being taken to the hospital in an ambulance, when the horse took fright, ran away and collided with a lamp-post, and the patient was picked up dead. This time no blame was attached to the driver, but rather to the horse, which had only one eye and was known as a "shyer." So the coroner's jury passed a solemn vote of censure on the contractor for furnishing such a horse for ambulance purposes, and there the matter rested again.

Dr. Byrom Bramwell has recently reported a unique case of "crossed aphasia" or loss of speech following a lesion of the *left* cortex, in a left-handed person, showing that the speech-center is not always situated on the right side of the brain in such individuals, although such is the general rule. He also confirms Collins' interesting observation, that if the destruction of Broca's convolution be sufficiently gradual, aphasia does not follow, which he regards as due to the gradual "education" of the corresponding center on the other side of the brain.

The Government Commission on Food and Drugs is now considering measures for the stringent regulation of the use of preservatives in foods. It has been discovered that both fresh fish and meat often possess a slight but very persistent bitter taste, traceable to the use of formalin. This, though not poisonous, is highly objectionable on account of its hardening effect on the proteids, especially when used in milk, rendering them difficult of digestion.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

TREATMENT OF GUN-SHOT WOUNDS OF THE CHEST—EFFECTS OF RESECTION OF THE CERVICAL SYMPATHETIC NERVE—OCULAR MASSAGE—CURE OF HEPATIC HYDATID CYSTS—SUTURE OF A FRACTURED CLAVICLE—AN INCOMPLETE OPERATION FOR SINUS THROMBOSIS—OPINIONS ON THE BEST TREATMENT OF HEMORRHOIDS—RUPTURE OF THE THREE PARTS OF THE QUADRICEPS AT DIFFERENT PLANES—SUTURE OF THE AXILLARY ARTERY—WARM BATHS IN MENINGITIS COMPLICATING PNEUMONIA—WHEN MILK ACTS AS A POISON IN UREMIA—MISTAKE IN X-RAY DIAGNOSIS.

AT the Academy of Medicine, May 16, LUCAS-CHAMPIONNIERE showed a man who two months previously had received a bullet in his chest. The ball had entered at the right side of the upper part of the sternum, and the direction of the wound indicated that it had passed through the right lung. There was expectoration of blood, and marked collapse. The patient was kept absolutely quiet, and the external wound was cleansed. Further than this, nothing was done, although the following day there were signs of a large effusion of blood into the right side of the chest. The patient recovered satisfactorily, and a radiograph showed that the bullet was situated near the twelfth rib. The speaker took the opportunity to em-

phasize the importance of absolute rest in the treatment of such cases. In abdominal wounds early surgical interference is demanded. In wounds of the chest, the reverse is true, and the patient should not even be turned over for the purposes of auscultation. He should be kept horizontal, or slightly inclined if respiration is facilitated thereby, and morphin should be given to allay restlessness, and laxatives and, if necessary, stimulants.

At the meeting of May 23d, FRANCOIS-FRANK spoke of the effect of the division of the cervical sympathetic nerve upon the circulation of the thyroid gland, the brain, the eyes, and upon the heart. It is logical to believe, that the resection of the sympathetic acts at least as much to suppress the transmission of abnormal excitation of a cardiac or aortic origin toward the center as it does to suppress the centrifugal influences of the thyroid, brain or heart. Irritations of the cardiac and aortic fibers, as of all the fibers of the sympathetic, may produce circulatory changes which suggest the attack in Graves' disease, including thyroid vasodilatation. Consequently the total resection of the sympathetic can easily produce good results, especially in cases marked by reflex disturbances of aortic origin.

DARIER said that ocular massage had proved of such benefit in stimulating the accommodation of hypermetropic patients, that several of those so treated had been able to lay aside their glasses. In hypermetropic strabismus, the amblyopic eye had been so improved that binocular vision had become possible, thus aiding in the cure of the strabismus. The acuteness of vision of several myopic patients was increased, but the eyes themselves were not altered. In a certain number of cases of glaucoma the sight had also been improved by massage.

At the session of May 30th, DIEULAFOY spoke of two patients whom he had permanently cured of hydatid cysts of the liver; the first, a man, by means of a laparotomy and extirpation of the cyst; and the second, a child of ten years, by aspiration of the cyst contents. He spoke of the relative merits of these two procedures. Puncture is only suitable for recent cases, and should be done with every precaution to prevent the escape of fluid into the peritoneal cavity. To this end a fine needle should be used, and the whole of the contents of the cyst should be drawn off at the first puncture. If the needle clogs before this end is accomplished, a second needle should be introduced, without disturbing the first, and the two withdrawn at the same time.

At the Surgical Society, May 10th, SIEUR said that he had resected the ununited ends of a clavicle, and sutured them together with two threads of silk. The fracture was of eight-months' duration and separated the outer third of the bone from the inner two-thirds. After the suture the arm was fixed for a month. In sixteen months after the suture every trace of the fracture had disappeared and the function of the arm was perfectly restored.

BROCA discussed a case of mastoid abscess which had been treated by DELANGLADE. He had opened the mastoid cells and then an extradural abscess, and believed that he had gotten beyond the trouble until the signs of sinus phlebitis appeared on the following day. The lateral sinus was therefore exposed but not opened, neither was the jugular tied. After a secondary femoral osteomyelitis the patient recovered. Broca thought that the ligature of the jugular and the opening of the sinus would have saved the patient from this complication.

At the session of May 17th, there was a discussion of the treatment of hemorrhoids, which was interesting as showing the very different opinions held by well known surgeons in regard to the treatment of this most common disorder.

MONOD, operating under chloroform, does not touch the external hemorrhoids and cuts off the internal ones, one at a time, with scissors, suturing immediately the cut mucous edges of each. A drain wrapped with iodoform gauze is left in the anus.

RECLUS uses cocain and thinks it important to remove the external as well as the internal hemorrhoids.

POZZI said that it is advisable to respect, as much as possible, the mucous membrane. He, therefore, employs only ignipuncture in the treatment of hemorrhoids.

TILLAUX also uses the thermocautery in the same manner. He said that its only inconvenience is the pain which lasts sometimes for two or three days after its use.

QUENU advocated general anesthesia in order to keep the rectum of the patient still. Under cocain it is drawn up involuntarily, even though no pain be felt. He said that different operations were indicated in different cases. If hemorrhoids are particularly turgid, ignipuncture is a better treatment than excision. Prolapse of the mucous membrane is a common complication which cannot be cured by the cautery nor by partial excision. Ignipuncture gives eschars, which do not come away for twelve or fifteen days, and its one advantage is in the economy of blood. The sole objection to Whitehead's operation is the difficulty in carrying it out properly; but that will disappear if the surgeon will accustom himself to its details. It is not followed by pain, and cicatrization is complete in two weeks. He had never seen any contractions follow this operation.

ROUTIER said that there would be no danger of retraction if the line of junction of mucous membrane and skin was respected. His plan is to ligate each hemorrhoid at its base, and then remove the projecting portion with a thermocautery.

POIRIER described a case of rupture of the quadriceps tendon, in which the three different tendons of which the whole is composed were separated at different levels. The tendon was sutured, with a perfect result. As the end of the crural portion was interposed between the ends of the right anterior portion, the result by massage would have been inferior to that obtained by operation.

May 24th, RICARD spoke of the suture of the axillary artery which he performed in the course of an operation for the removal of the axillary glands. The axillary vein was resected for a considerable distance, and the artery was accidentally incised. A lateral suture of catgut was applied at four places. The result was apparently perfect, there being no difference in the radial pulse of the two arms.

TUFFIER said that in his experiments on animals, suture of an artery was usually followed by a callous which so compressed the vessel as to make it impervious.

BAZY said that he had resected five inches of the axillary artery with no ill effects, so that he considered its suture unnecessary in such a case as the one under consideration.

At the Medical Society of the Hospitals, May 12th, RENDU described a case of pneumonia complicated with meningitis occurring in a girl aged five years. Cold baths were used in the treatment and the patient was recovering from the pneumonia when she developed the symptoms of meningitis, stiffness of the neck, contraction of the muscles of the jaws and limbs, elevation of the temperature, etc. Warm baths were substituted for the cold ones, and 100 c.c. of saline solution was injected daily. Calomel and bromid of potash were given in small doses. Under this treatment the child slowly recovered her health.

May 19th, RENON said that he had found that a milk diet acted as a poison in certain cases of uremia, just as it did in certain cases of enterocolitis, and probably for the same reason. The diet, therefore, ought to be the same as that recognized as best in the latter trouble. In five cases where he had carried out this plan of treatment, giving rice water and bean soup without meat for several days, vomiting, diarrhea, and dyspnea had disappeared, and the albumin in the urine had been reduced to almost nothing. Later a leguminous and farinaceous diet was given, and after that a milk diet, a mixed diet being withheld until all danger had passed.

At the session of May 26th, BECLERE gave the results of an autopsy which illustrated the care which must be used in drawing conclusions from X-ray examinations of the abdomen. His patient was supposed to have a subphrenic abscess, containing air, but the air-space was found to be a displaced transverse colon, while the pain was due to pleurisy, and the enormous purulent expectoration, which was thought to indicate a connection between the subphrenic abscess and the bronchi, came from the dilated bronchi of the right lung. A previous pneumonia had apparently been the origin of the whole trouble.

SOCIETY PROCEEDINGS.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Abstract of the Proceedings of the Twenty-first Annual Meeting, Held at Chicago, Illinois, May 22, 23, and 24, 1899.

FIRST DAY—MAY 22D.

THE Association met in the rooms of the Chicago Medical Society, and was called to order by the President, DR. WILLIAM E. CASSELBERRY, who delivered an address. He said that the honored custom of an address from the chair affords opportunities for suggestion looking to the welfare of an organization and of the department of medicine which it represents which would not find expression in any set paper or formal discussion. All are conscious of the change in the drift of laryngological practice during recent years, first, by the evolution of nasal pathology, and second, by the appropriation of the ear. From a physician treating affections of the throat and chest, the laryngologist is fast becoming a surgeon with a routine of practice limited to local measures as applicable to the upper respiratory tract alone. While freely conceding that progress has been realized along surgical lines, he deprecated the tendency of the day to deal with the throat and nose exclusively in a mechanical way, as if they were organs detached. He believes it engenders narrowness of thought, and that, through habitual disuse, there is gradually lost to the physician much of that fundamental knowledge of pathology and applied therapeutics which is so essential to the welfare of the patient.

Do latter-day laryngologists, as a class, habitually endeavor to establish the real diagnosis in the earliest demonstrable stage of pulmonary tuberculosis? Are not such patients liable to come first before us with their irritable throats, hacking cough, tendency to hoarseness, and inclination to rhinitis? It is not claimed that the laryngologist must of necessity embrace in his practice all pulmonary disease; that is a matter of choice, and expediency, but it is urged that he be ready to apply all the arts of diagnosis, and that he be conversant with every resource known to medicine in the treatment of pulmonary conditions for the benefit of cases of laryngopulmonary tuberculosis, laryngobronchitis, bronchial asthma in association with ethmoiditis, and other conjoined pathological conditions of the upper and lower respiratory tracts. Nor will it answer to omit attention to the heart, aorta, and mediastinal contents. Paralysis of a vocal cord through pressure on the recurrent nerve by an aneurism is a simple proposition, but more complicated ones which require a high degree of diagnostic skill are continually encountered.

Regarding the treatment of pulmonary conditions, especially tuberculosis, cases which are not complicated by affections of the throat are naturally claimed by the department of internal medicine. It is not possible, nor even desirable, to draw an absolute line at this point between laryngology and internal medicine; in practice they are bound to overlap, but conceding that if drawn anywhere it would be here, there remains a considerable proportion of pulmonary cases in which the upper respiratory tract is so far implicated that they fall naturally under the care of the laryngologist. Hence, as before said, he should be conversant with every resource known to medicine in the treatment of pulmonary states. He should be a good systemic therapeutist, and continue to cultivate the art of prescribing, realizing the uses as well as the limitations and abuses of internal medication. Above all, one should study the conditions of natural immunity and susceptibility in order that having made an early diagnosis, one may direct the mode of life and place of abode best adapted to arrest the disease and overcome the susceptibility. This implies a ready familiarity with sanitation, hydrotherapy, climatology, and sanatorium resources and methods.

All laryngologists are familiar with the many throat conditions which appear as salient features of underlying

systemic states, and yet in the overswing of the movement toward localism general pathological data, systemic therapeutics and hygienic aids are not always utilized to the utmost. How often is edema of the larynx merely secondary to chronic nephritis; and laryngeal ictus simply the forerunner of locomotor ataxia?

Dr. John W. Farlow of Boston read a paper, entitled "Is the So-Called American Voice Due to Catarrhal or Other Pathological Conditions of the Nose?" He said that the so-called American voice is so often referred to that he thinks we are justified in making inquiry as to its nature and cause. Liability to nasal catarrh is considered to be the determining cause. Laryngologists are all agreed that it is the exaggerated nasal quality, the production of voice in the nose, the twang, which is its most notable characteristic, and a consideration of the larynx and fauces as factors can be omitted. It is not the thick, muffled voice of weak carrying power, such as occurs in cold in the head, but the high, penetrating, vibrating voice, indicating an openness of the nasal chamber, so that the voice made in the larynx finds its way into the nose. Any condition which hinders the passage of air into the nose, such as large tonsils, adenoid disease, post-nasal polypi, or tumors, enlargement of the posterior ends of the turbinals, tends to diminish the nasal resonance, and hence should not be considered as contributing to the production of a nasal voice. When we say we talk through the nose, we mean that we do not speak *through* but *in* the nose, and we may distinguish between the sound made when only the very anterior part of the nose is obstructed, as when the nostrils are closed by the fingers, and when the obstruction involves the turbinals, as in acute coryza, the former sound approximating more the nasal twang.

The essayist then considered the effect of chronic catarrhal conditions of the mucous membrane of the nose without hypertrophy, so often associated with a similar disease of the post-nasal space. In severe cases of long standing there may be anesthesia and paresis of the soft palate, which would diminish the proper activity of the muscles which shut off the fauces from the post-nasal space, and thus some of the tones which should be made in the mouth are involuntarily formed higher in the nose and acquire a nasal character. This is well known to occur temporarily immediately after the removal of a large adenoid before the palate has regained its proper strength. Apart from the effect of the incomplete movement of the palate, the author does not see that an atrophic condition of the nose tends to make a nasal voice if the method of speaking is correct. If it is incorrect the nasal character should be more marked owing to the greater opportunity for vibration.

For purposes of study he divided patients roughly, according to age, into, first, children up to twelve years; second, those from twelve to thirty years old, and third, those above thirty. There can be no question that the nasal voice is very common in the first class. The voices of young children at play or in the class-room are often very noticeable for their nasal quality. From twelve to thirty years of age there is an increase in the number of cases of obstructing septa and anterior turbinal hypertrophy. Polypi are more common, and atrophic rhinitis with some paresis of the palate is also more frequent. He should say that the nasal voice is met with very often at this age, but not more frequently than in the preceding period, and certainly not proportionately to the increase in causative conditions. After thirty years of age the various pathological conditions continue, and the sclerosing inflammations of the mucous membrane become more marked. As to the frequency of the nasal voice, his impression is that it is rather less common than earlier in life, perhaps in the sense that there is a larger proportion of voices with no nasal intonation, although there are many very marked examples of the nasal twang, while in the young the number who speak without any nasal twang is decidedly less.

If the opinion is correct that the condition of the nose is not the principal factor in causing the faulty voice, physicians should certainly expect to be able in many cases to improve the manner of speaking without medical or surgical treatment of the nose. Many excellent singers have throats and noses which are far from normal, and pathological conditions have more to do with the range and power of endurance of the singing voice than with its proper quality in the medium registers, and when used in moderation.

He believes that anterior nasal obstructions are common in all civilized races, and that there is no reason for thinking that any peculiarity in the American voice is due to what is possessed by others equally with ourselves. The parts of our country, where are the oldest centers of civilization and education, should be the places where most attention is paid to both the singing and the speaking voice, and this is probably the case, but in our old country villages distant from the populous centers the voices of the natives are well known to have the nasal twang without regard to the condition of the inside of their noses.

Dr. James E. Newcomb of New York City read a paper on "Adenocarcinoma of the Nose," in which he reported the following case: Mrs. C. C., aged sixty-one years, widow, of American parentage, was referred to him on account of severe and persistent nosebleed. Her family history was negative, and her previous history was without apparent bearing on her condition when seen. In June, 1898, she began to have almost daily bleeding from the left naris. She had been subject for many years to severe colds in the head, and was inclined to attribute her troublesome symptom in some way to this fact. The bleeding always stopped of its own accord, and no operative interference had ever been necessary. On two occasions it had been quite severe, but on all others it had been a mere dribbling. In September she had blown from the nose what she described as a "fleshy bean," and which was in all probability a polyp of usual variety. She had lost some flesh and strength during the few preceding months, but no more than could be accounted for by the continual though slight bleeding. At times there had been a slight watery discharge with an offensive odor. None was present at the time of examination. The lat-

ter showed a woman of large frame, but with a rather worn and debilitated appearance. Pharynx, naso-pharynx, and larynx presented nothing especially noteworthy. The right naris showed commencing senile changes. The left was considerably occluded. The middle turbinate was considerably enlarged, and the mucosa covering it appeared to be in a condition of polypoid degeneration. About it were two or three fleshy proliferations which bled rather easily upon manipulation with the probe. No granular enlargement could be found, and there were no manifestations of pressure symptoms. Under ten per cent. cocain a portion of one of the fleshy masses was removed and sent to Dr. Wright for examination. His report was adenocarcinoma. Removal was followed by a little more bleeding than is the case with an ordinary polyp, but was easily checked, and there was no unpleasant reaction.

The patient was seen again in two or three weeks, when it was noticed that the mass had reproduced itself in the same situation. A second piece was removed as before. There had been no bleeding in the meantime. The report upon the second piece was to the effect that it consisted of edematous tissue, with some newly formed and perfectly granular structures, all of it granular and degenerate-looking, nothing definitely malignant, but certainly suspicious. Patient was seen again for the third time on March 13th of the present year. The same reproduction of tissue was noted as before, but none was removed at this time. There had been two spontaneous hemorrhages during the week preceding this visit, one of them quite severe.

The patient was made acquainted with the gravity of the situation, and the question of a radical operation was submitted fairly to her. Thus far she has been unwilling to undergo the ordeal. She was last seen early in the present month (May, 1899). During the last few weeks the daily dribbling hemorrhages have continued and at times there has been a perceptible offensive odor. The occlusion of the nostrils is gradually increasing. Her general condition seems to be about the same as before.

With this case the author mentioned six cases to be added to those enumerated in a table prepared by Dr. Hopkins.

As to surgical measures, up to the present time two general operative procedures have been followed: first, removal of the superior maxilla, with more or less of the surrounding structures; second, attempted starvation of the growth by cutting off its blood-supply. In pursuance of the latter end the external carotid has been ligated. He has been interested to learn of a modification of this procedure, first made by Dr. Dawbarn. He found, upon studying the anastomotic circulation, that after simple ligation of the external carotid there were fully twenty channels, through which collateral circulation could be established. With a view, therefore, of still further cutting off the blood-supply, he conceived the idea of ligating, one after another, the eight branches of the external carotid, and then, as the trunk of the vessel was thus rendered useless, of resecting it entire. He has performed this operation sixteen times upon eight patients, a two-weeks' interval elapsing between the two operations in each case. It has been performed once or twice by others. While the period covered by this work is too short, and the number of patients thus operated upon too few to allow of decisive conclusions, the author believes that time will demonstrate the logic and effectiveness of this operative modification.

DR. A. COOLIDGE, JR., of Boston followed with a paper, entitled "Removal of a Foreign Body from the Bronchial Tube Through a Tracheal Opening," and reported a case. The report illustrated the ease with which a foreign body can be removed from a bronchus. Patient, male, aged twenty-three years. He had worn a tracheotomy tube for twenty years on account of stenosis of the larynx. His last tube was made of hard rubber, and was several months old. Twelve hours before admission the tracheal tube had become detached from the shield, and had been inhaled, causing severe coughing, and distressed and noisy breathing, which, although less severe, was still present when he was admitted. Examination by X-ray was negative. Patient was etherized, put on his back, with the shoulders over the end of the table, and the head held downward and rotated to the right side. The tracheal opening was enlarged downward. Not having any other straight tube of proper caliber on hand, the essayist used a urethroscope, half an inch in diameter, and three inches long, a little short for perfect examination. This was passed through the tracheal wound with the stylet in place, turned down, the stylet withdrawn, and the speculum without any difficulty pushed down the trachea to within about an inch of the bifurcation. For illumination a head mirror and reflected sunlight were used, and this illuminated the field perfectly. The foreign body was seen in the right bronchus, the upper end about one-half an inch below the bifurcation. It was seized with a long pair of alligator forceps introduced through the speculum, and removed without difficulty. The patient suffered no ill-effects from the operation. During the whole time respiration was carried on easily through the speculum, except in attempts at coughing at first, which soon subsided. There was no inconvenience from secretion.

DR. G. HUDSON MAKUEN of Philadelphia reported an interesting case of stammering, exhibited the patient, and demonstrated the methods employed in treatment.

DR. M. R. WARD of Pittsburg read a paper on "Septic Thrombophlebitis as a Complication of Peritonsillar Abscess," and reported two cases.

Peritonsillar abscess, or quinsy, is a common throat affection, and while the natural tendency is for the disease to run a favorable course, his personal experience, together with a study of the literature on the subject, has impressed him with the possible fatal complications that may arise in any case, and of the necessity of a more guarded prognosis. Bosworth has given by far the most complete account of the rare complications of this disease. He inclines to the belief that the most frequent fatal complication is rupture of the abscess during sleep, the pus entering the air passages, producing death by asphyxia. The literature, however, would indicate that

hemorrhage is the more common fatal complication, and that septic thrombosis, or thrombophlebitis is exceedingly rare.

It is the exception rather than the rule for the specialist to be called upon to treat a case of peritonsillar abscess, or quinsy. This disease, by custom, belongs almost exclusively to the domain of the general practitioner, while the treatment, if instituted at all, is purely symptomatic. Surgical interference is condemned as extra hazardous; medical as inefficient, and the patient is usually dismissed with the comforting remark, that "the abscess will rupture in a few days, when his sufferings will be at an end." This is usually true, but occasionally a pneumonia intervenes, when the physician is again summoned, and the disease then receives the full measure of his attention and skill. The patient dies, and the death certificate reads "death from pneumonia." The peritonsillar abscess has been entirely overlooked as an etiological factor in causing the death of the patient.

The evolution of sinus thrombosis, cerebral and cerebellar abscess as a result of mastoid suppuration, has been slow but sure. To-day the aurist and neurologist are fully alive to the possibility of such complications, and the condition is not an infrequent occurrence. An infective process in any portion of the body is liable to produce a general infection. This takes place either through the lymph or blood channels. When the infection is conveyed through the blood channels, we generally have to deal primarily with the thrombosis or thrombophlebitis. The thrombus is usually found in the veins in close proximity to the seat of the primary infection, though not necessarily so.

The conditions favorable to thrombosis are alterations in the blood current, changes in the vessel walls, and alterations in the blood itself. Any one or all of these conditions may be present in a given case. The slowing of the blood current from narrowing of the vessel by pressure from the inflammatory products without predisposes to the formation of thrombi.

The number of published reports of cases of infective thrombosis, or thrombophlebitis, as a complication of peritonsillar abscess is exceedingly few. Bosworth, in his exhaustive treatise on diseases of the nose and throat, devotes a paragraph of five lines to this rare complication, and refers to cases having been reported by Rigal, Didelot and Kiemann. A careful review of the literature at the author's command adds nothing to the list referred to by Bosworth.

The author then detailed two cases that had come under his observation. The paper served to show not only the possibility but the serious nature of thrombophlebitis as a complication of peritonsillar abscess, and of the necessity of a more guarded prognosis in the treatment of this disease.

DR. THOMAS HUBBARD of Toledo, Ohio, followed with a paper, entitled "Report of Cases of Peritonsillar Abscess Associated with Diphtheria." In cases of diphtheria of the mixed-infection type the initial inflammatory reaction of the tissues of the throat and lymphatic system is frequently such as to lead us to expect deep suppuration or peritonsillar abscess. There is frequently undetected superficial pus-formation along with coagulation necrosis, but peritonsillar abscess is a rare complication of diphtheria. Two cases exhibiting both diphtheria and quinsy at the same time came under his observation within a year; the more interesting of the two we give below. The case presented a general clinical history that very clearly demonstrated the vagaries of mixed infection, two different members of the family exhibiting types of infection ranging from simple sore throat to abscess and fatal diphtheria.

The eldest son of a large family had sore throat and remained at home for a few days. Two younger children had attacks of mild tonsillitis, as described by the mother. No physician was called. A few days later a younger daughter developed typical diphtheria, and another had quinsy. About four days later the one was moribund from diphtheritic toxemia, and the other had a large peritonsillar abscess, with pseudomembrane over most of the throat. The abscess was incised and a large quantity of pus evacuated. The diphtheritic patient died within an hour of his first visit. The other received 4000 units of antitoxin and recovered after a very severe sickness. A baby sister developed diphtheria of the most virulent type and died within two days of the diagnosis.

This series of cases of mixed infection suggests that the virulence of the different bacteria, together with the age and natural resisting power of the patient, determines which type, false or true diphtheria, or peritonsillitis, shall predominate. In cases of this character, where pus is confined beneath tissue covered with a diphtheritic membrane, the question as to the propriety of early incision is an important one. The more that the surface is abraded the deeper will the diphtheritic infection penetrate and the greater be the absorption of toxins. We should be guided by ordinary surgical principles, and first locate the pus accurately. It should be evacuated only through tissue already devitalized by softening, and vascular tissue should be avoided if possible.

The Association discussed in a symposium the relation of pathological conditions of the ethmoid region of the nose to asthma. DR. HENRY L. SWAIN of New Haven, Conn., dwelt upon the pathology. He stated that an accepted theory is that there must be, first, an irritability of the bronchial structures which makes possible the explosion of energy known as asthma. This hyperesthetic condition is frequently the result of disease, and the multiplied and oft-repeated attacks always induce disease, and consequently greater irritability. Secondly, we usually find some other structure is diseased or oversensitive. An irritation or disturbance of it sets into motion the spasm of the bronchial apparatus. Thus we find that one asthmatic has an irritable nose, another a stomach, another a kidney, or an ovary, and if to these vulnerable organs certain stimuli are applied an explosion results. But to connect the nose, stomach, or kidney with the bronchial tubes a third element must be brought in, namely, the vasomotor system, or, as it is more often put, the neurotic habit.

The author is inclined to believe that lesions of the ethmoid, or generally speaking middle turbinate region, are of an edematous nature. How rarely, if ever, does one see a case of genuine atrophic rhinitis with asthma? The lesions are, therefore, hypertrophic in character, and at first confined to the mucous membrane. In more than sixty cases purulent ethmoid disease has only existed three times, and in these it was secondary to long previous existence of edematous tissue. Marked disease of the bony structures occurred in these sixty cases some six or eight times without purulent conditions, and was here also due to inveterate formation of polypi, which latter the author is led to believe is always the rule, namely, that the disease of the mucous membrane precedes that of the bone. Septal spurs and bends seem to keep up middle turbinate disease and increase the possibility of pressure, which seems in a great many cases to explain asthma. But in all, whether complicated or not, there was hypertrophic disease always present, and usually of the edematous type. Very often these edematous hypertrophies were polypoid in form. We have merely to explain the production of hypertrophies, edematous and otherwise, in these cases, to have the pathology of nasal lesions clearly discussed. When treating many of the pathological conditions in the nose, whether asthma exists or not, the physician must often look outside of the nose, and many times outside of the body, for the causes which have led up to them.

DR. E. FLETCHER INGALS of Chicago discussed the clinical phases. He has seen cases of asthma relieved quite promptly by the removal of polypi, the patients gradually improving for days or weeks without having any asthmatic attacks, until the polypi recurred. He mentioned one patient who was peculiarly unfortunate in that he was a teamster, and whenever he went near the stable he had asthma. He had known patients who could drive on a dusty road behind oxen without having attacks of asthma, yet who could not ride behind horses without having it. He mentioned other patients who could ride bicycles no matter how much dust there was, but who could not ride behind horses. He cited the cases of one or two patients who assured him they had asthma on one side only.

DR. F. H. BOSWORTH of New York, in speaking of the treatment, said there can be no question but that edematous hypertrophy, polypoid degeneration and polypi in the nose are intimately associated with asthma, and the removal of these pathological conditions would relieve the attacks of asthma temporarily, or in some cases, perhaps permanently. Clinical observation teaches us this. He contends, and has for a number of years, that we can go further than this and say that ethmoiditis is an etiologic factor in asthma. Oftentimes asthma is relieved temporarily by the removal of polypi, then it recurs. Why? Because the physician fails to recognize that nasal polypi are only symptoms, or manifestations, of the disease in the ethmoid cells, and in removing simply the polypi he has not clearly carried out the clinical indications. More radical operative measures are necessary to effect a cure of asthma.

DR. F. E. HOPKINS of Springfield, Mass., read a paper, entitled "Recurrence of the Tonsil after Excision," and reported a case. A careful search of the literature of the subject discloses several cases, but a wide variety of opinion is represented as to the frequency and cause of recurrence, as well as of its prevention. It is noticeable that few cases are alluded to by laryngologists, and that most of the references are of cases which were published some years ago. The inference is that under general anesthesia, now so commonly employed, a more thorough operation is performed and recurrences must be even more rare than formerly. Among the causes of recurrence, aside from imperfect operation, are a tubercular or specific dyscrasia, and an acute inflammation of the stump. This acute inflammation of the stump must take place soon after operation in order to result in recrudescence of the tonsils, as occurred in his own case; yet Mackenzie mentions a recurrence following acute inflammation long after operation.

DR. E. FLETCHER INGALS of Chicago reported a case of fibrolipoma of the epiglottis and base of the tongue, and exhibited the patient.

DR. D. BRADEN KYLE of Philadelphia reported a case of confined suppuration of the frontal sinus with spontaneous rupture; and Dr. John O. Roe of Rochester, N. Y., followed with remarks on the presence of partitions and diverticula as a cause of retarded recovery in the treatment of diseases of the maxillary antrum.

The following officers were elected for the ensuing year: President, Dr. Samuel Johnson of Baltimore; vice-presidents, Drs. T. A. DeBlois of Boston, and Moreau R. Brown of Chicago: secretary and treasurer, Dr. Henry L. Swain of New Haven, Conn.; librarian, Dr. J. H. Bryan of Washington, D. C.; member of the Council, Dr. William E. Casselberry of Chicago. Place of meeting, Washington, D. C., in conjunction with the Congress of American Physicians and Surgeons, May, 1900.

REVIEWS.

DEFECTIVE EYESIGHT. THE PRINCIPLES OF ITS RELIEF BY GLASSES. By D. B. ST. JOHN ROOSA, M.D., LL.D., Professor Emeritus of Diseases of the Eye, New York Post-Graduate Medical School and Hospital; Surgeon to the Manhattan Eye and Ear Hospital, etc. New York: The MacMillan Company, 1899.

SOME years ago there appeared, in a series by various authors upon different subjects in medicine and surgery, a little book by the author of this volume, entitled "The Determination of the Necessity for Wearing Glasses." This now appears under a title which better explains its object, very much enlarged, illustrated, and almost completely rewritten, so thorough has been the revision made necessary by advance in knowledge of the proper prescription of glasses, especially in regard to simplicity and accuracy. The manual will be found a reliable guide to the student as well as to the practitioner in ophthalmology, while the easy, almost colloquial style and system-

atic arrangement of topics will add to its interest to those educated people and general practitioners who, without having a special interest in the subject, wish to know the principles upon which the prescription of glasses is based, and who will find with these a number of interesting cases from the records of an authority, and the illuminating critique of an eminent ophthalmologist. The author's standpoint on muscular insufficiences may appear extremely conservative. He says: "It has been reserved for our time to produce those, of whom the present author is one, who . . . have ceased to believe in the existence of any such condition as 'muscular asthenopia.'" While this may seem to go too far, it is certainly a step in the right direction, and away from the "heterophorias," "imbalances," and "graduated tenotomies," which, of late, were rife.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONER'S INDEX. A Work of Reference for Medical Practitioners. Seventeenth year. New York: E. B. Treat & Co., 1899.

THE present number of the "Annual," like its predecessors, covers the entire field of medicine and surgery, giving in detail all of the important advances in medical science made during the past year, and with full reference to the original sources.

This is one of the best of the yearly summaries, and each page is a convincing proof of the painstaking labor expended in the compilation of the work. We feel convinced that every practitioner needs a work of this description as a means of reference and as a time-saver, when one considers the enormous annual contributions to medical literature. On the whole, the editorial work has been well done, and the busy practitioner will fine the book to be in constant requisition.

DIET AND FOOD. Considered in Relation to Strength and Power of Endurance, Training, and Athletics. By ALEXANDER HAIG, M.A., M.D., Oxon., F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. London: J. & A. Churchill, 1899.

THE author, whose views on diet have been suggested in a monograph on "Uric Acid as a Factor in the Causation of Disease," goes a step further in the little volume under discussion, and lays stress on the elimination from all food of the poisonous xanthins and uric acid. He believes that diet, as at present used, is often the product of much ignorance; the cause of a waste of time and money; that it produces mental and moral obliquities, destroys health and shortens life, and generally quite fails to fulfil its proper purpose. We are not told whether these evils will vanish before a diet composed of milk, cheese, potatoes, pulses, and "protene," such as the author recommends, nor are any facts adduced to prove his contention that "one ounce of albumen from vegetables, milk, or cheese will produce a greater external result than a like amount of albumen from the tissues of dead animals." While the extreme theses of the deleterious nature of meats and of the sufficiency of milk and vegetable diet for those engaged in active physical work are not satisfactorily proven, there is no doubt that overeating of meat is but too common, and the warning note sounded against this practice by Dr. Haig may well be heeded.

THE PRINCIPLES OF BACTERIOLOGY. A Practical Manual for Students and Physicians. By A. C. ABBOTT, M.D., Professor of Hygiene, and Director of the Laboratory of Hygiene, University of Pennsylvania. Fifth edition, enlarged and thoroughly revised. Philadelphia and New York: Lea Brothers & Co., 1899.

IN the present edition of Abbott's well known and popular bacteriology, the subject matter has been brought well up to date, and the book is now one of nearly 600 pages. The work is designed for the use of students, and the author has admirably accomplished his purpose. We know of no other manual on this subject that so adequately fulfils its mission, and in which more painstaking care is given to all the minor details so important to every student, and so frequently omitted from the text-books.

We still, however, must take exception to the limited index, and trust that a future edition will be more complete in this matter. Many new illustrations have been added and the work is a beautiful example of modern bookmaking.

THERAPEUTIC HINTS.

To Remove Odor of Iodoform.—If after washing the hands well with soap and water a teaspoonful of vinegar be rubbed over them the unpleasant odor of the iodoform will be overcome.—*Ricketts.*

For Infantile Angina.—

℞ Ac. carbolici . . . . gr. xv
Glycerini . . . . . ʒ iss
Ol. thymi . . . . . gtt. ii
Aquæ . . . . . Oi.

M. Sig. For irrigation of pharynx.

Powder for Vulvar Pruritus.—For non-parasitic form:

℞ Hydrarg. chlor. mit. . . . gr. viii
Pulv. belladonnæ . . . gr. iii
Potassii brom. } aa . . gr. xv
Bismuth submitrat. }
Pulv. amyli . . . . ʒ v.

M. Sig. External use.—*Mussy.*

For Hoarseness in Singers and Speakers.—

1. ℞ Cocain hydrochlorat. . . gr. xv
Strychninæ sulphat. . . . gr. ¾
Aq. dest. . . . . ʒ iii.

M. Sig. For spraying throat.

2. ℞ Cocain hydrochlorat. . . . gr. ¾
Tinct. aconiti . . . . *m.* x
Altheæ } aa . . . q. s.
Sacchari alb. }

M. Ft. pastilli No. LXXX. Sig. Dissolve in mouth. —*Boley.*

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ORIGINAL ARTICLES.

*BICYCLING IN ITS RELATION TO HEART DISEASE.**

BY A. C. GETCHELL, M.D.,
OF WORCESTER, MASS.

IT has been shown, particularly by Allbutt[1] and Da Costa,[2] that continued work at laborious avocations and continuous activity of a milder sort, such as long marches of soldiers, may produce not only functional disorder of the heart, but actual disease of the heart and blood-vessels as well. I propose in this paper to discuss the effect of another kind of continued muscular exertion on the heart, namely, bicycling. In the consideration of the subject I shall divide the riders into two classes, the untrained and the trained. First the untrained. Under this class I include those who are learning to ride and those who ride for pleasure or business only, in contradistinction to the athletic amateur or professional rider.

The accident that these riders are most liable to is dilatation of the heart, and particularly of the right heart, which may be permanent or may last for but a short time. Acute dilatation happens in this wise: Under the stress of prolonged and severe muscular activity the demand for pure blood in the tissues is greatly increased. This is met at first by more rapid breathing and accelerated heart action. But if the demand be too long continued or through special causes, like rapid hill climbing, be too greatly increased, the right heart cannot send the blood rapidly enough through the lungs. Some remains in the right ventricle at the end of each contraction. This amount increases with each cardiac cycle and the cavity is stretched. The rider is now out of breath. If the task he has set out to accomplish is too great, and if he persists the dilated ventricle fails to act, and unconsciousness ensues. Through the cessation of bodily action the heart is relieved of its burden and resumes its function if it have sufficient vitality. On the other hand, if it be diseased death may ensue.

The following cases are examples of this accident, and they illustrate different conditions under which it may happen: Herschell[3] was riding with a friend who was new to the wheel. After pushing up a long hill he noticed that his companion was much exhausted, that his face was pale and his lips blue. He was obliged to dismount and lie upon his back on the grass. Examination showed marked dilatation of the right heart, feeble impulse, and rapid pulse. After an hour he was able to resume his journey, and in the evening the heart was normal.

A patient of mine had a similar experience. He was riding with his sister, and at the summit of a long and gradual ascent reached out to help his companion by pushing her over the crest, when he fell from his wheel unconscious. He soon recovered, and after a time proceeded on his ride. This man was about thirty-five years of age, and had ridden the bicycle for several years. Of late years his health had been very good, though he suffered somewhat from dyspepsia. As a child, however, he was delicate. His father died of heart disease. I have never had an opportunity to make a satisfactory examination of his heart. Once, however, I had occasion to spray into his nose for the purpose of an examination a four-per-cent. solution of cocain. Pronounced and distressing cardiac symptoms immediately ensued, which lasted to a greater or less degree for several hours. At this time I made a superficial examination, but detected no lesion.

A retired wine merchant, while riding over a level road at a moderate pace fell from his wheel and soon died. Autopsy showed rupture of a heart diseased with fatty degeneration, and also a stomach full of an undigested meal.[3]

These are instances of acute dilatation occurring, first in healthy persons who are subjecting themselves to severe exercise, when, as the horsemen would say, they are "soft;" secondly, of those who are inured to the exercise, but who have weak hearts, and, thirdly, of those whose hearts are actually diseased.

It is well recognized that dilatation of the heart occurs in the course of severe illness, and particularly when there is marked febrile movement. Under these conditions there are two factors to be considered in its production: First, the integrity of the heart-muscle, and, second, the resistance to be overcome. In disease the nutrition of the heart may suffer more or less, according to the amount of toxic products which are circulating in the blood. There may be obstacles to the blood current, as, for instance, a consolidated lung.

*Read at the sixteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

The problem is not so clear in the question of dilatation from severe muscular exertion in the well. At first sight it would seem that neither of these factors is present, because physiologically increased activity of the body in the open air would seem to purify the blood, and increased muscular exertion would send it more freely through the tissues. This is true up to a certain limit, and that limit depends upon the relation of two factors, the amount of work to be done, and the ability of the organism to do it. To quote Gibson: [4] "There is one consideration (in the production of dilatation) that must not be overlooked. While the effect of stimulating a muscle in experimental physiology is to accelerate the flow of blood through it, the effect of long-continued muscular action must be to form a large number of waste products, and it will necessarily follow that the blood may have greater difficulty in passing through the tissues after it has been loaded with such substances. The mere muscular exertion, moreover, involved in long-continued efforts is to increase intrathoracic pressure, and this, added to the greater impurity of the blood, will interfere with the functions of the right side of the heart."

In bicycling a proof of the existence of toxic matters in the blood is found in the so-called fatigue fever, which is produced by the absorption of toxins into the blood. In its milder forms it is not uncommon. A personal experience furnishes a good example. One hot day last August with a party I rode over a hilly road to the foot of a small mountain, ascended the mountain, and returned home. The trip occupied the entire day, from 9 A.M. to 5 P.M., with a short rest at the top of the mountain. I was on a tandem bicycle, accompanied on the ride out by a child of ten, and on the return by a lady. I was not particularly tired on my return. During the night, however, I became very restless and could not sleep. My pulse was rapid though regular, and I felt very hot. The experience was so novel, and to me then unaccountable, that I could explain it only on the supposition that I was coming down with some acute illness. After a very uncomfortable night and an unsuccessful attempt to breakfast, I remained in bed during the entire day. I was not a novice at the wheel, having ridden a good deal for ten years. In some instances there is much more cardiac disturbance, and an irritable condition of the heart persists for several days.

The second factor in the production of permanent dilatation of the heart is increased peripheral resistance. This ensues in part as a consequence of the accumulation of toxic products in the blood and in part in the stasis that occurs in the lung owing to the inadequate action of the right heart. Add to these causes the occasional severe strain of spurting and rapid hill climbing and the crouching attitude of the scorcher, and we have causes adequate for much trouble. It thus appears that bicycling may furnish the two conditions for the production of permanent dilatation of the heart, namely, toxins in the blood and increased peripheral resistance.

Dilatation is not the only evil to be feared. Valvular disease may result as well. The auriculoventricular orifices undergo changes in dilatation of the cavities, and thus their dimensions are considerably increased. As a consequence of this the cusps of the valves do not meet as perfectly as in health. In acute illness a murmur, which later dispears, may be heard at these orifices. Under these conditions both the muscular walls and the auriculoventricular ring have not stretched beyond the limits of a possible return to the normal condition. Even if a ventricle weakened by disease has become dilated it is possible by rest and proper treatment to bring about either a restoration to the normal condition or a compensatory hypertrophy. It is doubtful if such a process is possible to an overdistended auriculoventricular ring, and as the cusps remain the same size a permanent disability of the valve must follow.

Let us now consider the effect of the exercise upon the trained rider. The claim is put forth that there can be no danger to men, and indeed women, of this class, since they never are distressed by their exertions. But an examination into the conditions shows that this reasoning does not hold good.

Hypertrophy of the heart as the result of continued and severe muscular effort is regarded as physiological. Thus the hearts of race horses and greyhounds are found to be greatly hypertrophied. Moreover, teachers of gymnastics tell us that the best results in the development of the peripheral muscles are attained by continued exercise against slight resistance rather than vigorous action against great resistance. According to Gibson, a prominent feature in the production of pathological hypertrophy of the heart is its rapid action. Da Costa found hypertrophy to result from the irritable condition which he described in soldiers. Osler says that the condition (*i. e.*, irritable heart) is not infrequent in civil life among young men, and it leads in some cases to hypertrophy of the heart. Herschell is of the opinion that hypertrophy may result from long-continued palpitation.

We have seen that one of the characteristic features of fatigue fever from bicycling is long-con-

tinued acceleration of the pulse. This acceleration also occurs without any fever or uncomfortable sensations. It has been found by a number of experiments with different classes of riders—men, boys, and girls—riding over roads of different grades and against head winds, that after riding at a certain rate, the pulse being counted, if the speed be increased the pulse-rate increases in greater ratio, and that too with the rider feeling no sense of fatigue. Thus the pulse-rate was found to increase from a normal of 72, 74, 80, and 84 to 112, 130, and 140, and in some instances this increased rate was maintained for several hours.

Riders of this class do not suffer from the accumulation of toxic substances in the blood as do their less vigorous companions, and the blood is sent through the tissues with greater freedom. But still there is a certain amount of resistance to be overcome, and when we add to these two factors, namely, long-continued, rapid movement and slight peripheral resistance, a third, good nutrition which is the result of bodily well-being produced by training in the open air, it is readily seen that we have the conditions most favorable to the production of cardiac hypertrophy. This does not mean that all trained bicycle riders suffer from hypertrophied hearts, medically speaking, because their training and life enable them to maintain the nutrition of the heart as well as that of the body at such a state as to fully compensate any alteration of structure. It is said, however, that athletes are liable to rapid deterioration of health when they relinquish their active exercises.[6]

What is the effect of such overexertion on the blood-vessels? As Allbutt has well said, the muscular ventricle may grow both in size of its cavity and in the thickness of its walls, but the walls of the aorta suffer under greater limitations; its power of resistance is great, but its activity is nothing more than the recoil of elastic fibers. Such repeated stretching results not in increased strength, but rather in weakness, as one of the coats may give way and pouching result, or an endaortitis ensue, or indeed incompetence of the aortic valves follow.

Lannois[7] reports a case of rupture of one of the aortic cusps. It occurred in a man, aged thirty-eight years, during a ride from Paris to Madrid, a distance of 1452 kilometers, in nine days. There was not at any time pain or other evidence of the accident, nor was his health impaired, and the lesion was discovered some time later rather by accident.

To summarize: Acute dilatation of the heart is an accident that may be expected from overexertion in an unathletic rider, and if the conditions be repeated permanent dilatation, especially of the right heart, may result with a consequent damage to the auriculoventricular valves. And, secondly, in the athletic hypertrophy may be produced with a possible consequence of disease of the aorta and incompetence of the aortic valve.

In discussing the application of these principles I shall consider three classes of riders: First, young children; second, young adults; third, persons approaching middle life and the unhealthy. Fortunately, in the past the price of a bicycle has precluded its use as a mere toy, and very young riders have been comparatively few. Still one sees them not only in the parks and streets, but in the country as well far from home. I can see no justification whatever for this practice. Boys and girls under thirteen or fourteen should not be allowed to take rides into the country where they may get far from home, and be subject to unwise exertion of a long ride or immoderate hill climbing. I doubt, too, the wisdom of allowing a young child to ride *ad libitum* even in the park or on asphalted streets. The sport is fascinating and not fatiguing, and it is not an uncommon experience to see young children riding hour after hour. Even on a level space, as we have seen, and entirely within the range of non-fatigue, the heart's action may be accelerated, and this increased activity may persist long after the riding is over for the day. Nor does the child escape more serious consequences, as this incident, which occurred in my neighborhood, shows: The child was a girl of twelve, previously fairly healthy. It had been noticed, however, that she got out of breath easily while riding. One afternoon she went into the country, which was rather hilly, with friends for a ride. Nothing unusual was noticed except that she was somewhat out of breath going up hills. She took tea with a friend, and after the meal again rode about the square, this place being slightly hilly also. On going to bed she had some gastric distress, and the family physician was called. He regarded the symptoms as due to indigestion, and prescribed accordingly. The child's room adjoined that of her mother. The latter was wakened in the night by her daughter's distressed breathing. Before help could be called the child died. There was no autopsy, but it is apparent that death was due to acute dilatation of an unhealthy heart pressed upon by a distended stomach.

In the second class of cases, healthy young adults, there is need of precaution against excessive hill climbing and very rapid riding, as the following cases show: C. F., aged twenty years, employed in a sewing-machine factory, consulted me for relief of a frothy expectoration. His family and personal his-

tory was good. He had been a bicycle athlete, and had ridden in many races. His early symptoms were cough, a feeling of substernal oppression, and uncomfortable sensations referred to the cardiac area. He stopped riding and grew better, to resume it after a winter, only to be obliged to discontinue it altogether. His throat and lungs were without evidence of disease. The impulse of the heart, which was feeble, was felt in the sixth interspace just inside the nipple line. The sounds were fairly pure in character, but faint over the tricuspid area, while over the aortic and pulmonic areas the first sound could not be heard at all. In this instance there was dilatation following hypertrophy.

In the following case the opposite conditions prevailed, first dilatation, then hypertrophy: H. B., aged twenty six years. Before the age of twenty he had always been well. Then he began to ride the bicycle. He lived in a very hilly town, was a scorcher, rode a wheel with eighty gear, and never got off for a hill. Presently he found himself unable to ride, and for some time after giving up the wheel was not in good health, having frequent fainting spells. He gradually grew better, and resumed riding but in moderation. His heart presented these features when I examined him five years after his illness: The apex-beat was apparently to the right of and below the ensiform appendix, really the impulse of a hypertrophied right ventricle. There was decided pulsation over the lower right portion of the sternum. Dulness extended one and one-half inches to the right of the median line and three inches to the left at the level of the fourth rib. The first sound over the epigastrium was impure. The pulse was 120 and regular. The rapid pulse was due to the excitement of the examination. He said it was usually 72. But this acceleration showed that the heart was irritable.

In this connection it would be interesting to learn the experience of the surgeons who examined recruits for the army in the late war. I have been able to find but one. In an article in the *Medical Standard*, detailing the results of the physical examination of 9901 officers and men of the Illinois National Guard, Lieutenant-Colonel Charles Adams, speaking of the heart, says: "In the preliminary examination of recruits made by medical officers of different regiments before leaving their home stations many cases of bicycle heart were discovered and the men not allowed to enlist. These were characterized by hypertrophy and dislocation of the apex-beat, with irregular or rapid beat."[18]

Da Costa's tables show that fully two-thirds of his cases happened from the sixteenth to the twenty-fifth year, while the great percentage was from the twentieth to the twenty-fifth. These figures are fairly reliable for our present purposes, because our army was recruited from men of the same class as our bicycle army. Men then, and women also, who take to the wheel between the ages of twenty-five and thirty-five, if healthy, are little liable to trouble because their physical powers are matured, and also because as a class they are not apt to indulge in the excesses of the more youthful.

From the age of forty, however, conditions are likely to be different. Those who begin to ride at this time in their life are the man of leisure or the bookkeeper or clerk, people who have spent the greater part of their life indoors, have very probably been high livers, and as a consequence suffer from faulty nutrition. To such the bicycle may be a blessing or a positive danger. Proper regard for hills, excessive exercise against high winds, rough roads, and the gear of the wheel will make the exercise beneficial, while one indiscreet overexertion may cause irreparable injury.

And, lastly, those who seek medical advice for ill health, such as dyspepsia. In all such cases before advising the use of the bicycle the heart should be carefully examined, for it must be remembered that the symptoms for which the patient seeks relief may derive their origin from some disorder of the heart or blood-vessels. Indeed, instances are on record of persons by bicycling, at first getting much relief from their dyspeptic or gouty symptoms, only later to fall victims to fatal disease of the heart. Under these conditions an examination of the heart should be exhaustive by the use of every means at our disposal—palpation, percussion, mensuration, and auscultation. The slightest deviation from the normal condition, whether it be in the character of the sounds, the relative intensity of the first and second sound in any area, their relative intensity in different areas, the rhythm of the heart, the character of the impulse, the condition of the arteries should be carefully noted, for it may be the heart that presents no gross lesion is the dangerous one, and the one that soonest breaks down under a severe strain.

Even if cardiac or circulatory lesions are found it does not follow that the bicycle should be forbidden, but it must be prescribed. Definite regulations must be laid down as to the character of the road, the length of periods of exercise, the kind of wheel, and the size of the gear. From personal experience I feel sure that proper bicycle riding will materially strengthen a weak heart, as it undoubtedly improves the general nutrition of the body. My contention is not that bicycling is a harmful mode of exercise. Indeed, I hold to the opposite view very

strongly. Bicycling is productive of great good, both in the way of health and of pleasure. But at the same time we must recognize the fact that it presents peculiar temptations to excessive exertion that is dangerous.

The athlete will probably go his way without asking or taking our advice. But we should be in a position to influence the youth in our midst, and especially those who seek medical advice If the bicycle is prescribed as a therapeutic agent for any trouble including disease of the heart it must be carefully prescribed, and not merely recommended, leaving the patient to his own inclinations and possible indiscretions.

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THE PROGNOSIS OF PNEUMONIA IN ITS RELATION TO ITS ETIOLOGY.[1]

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THE clinical picture presenting in acute lobar pneumonia is so constant in its essential features, while its pathology is so comparatively undeviating, that a single well-defined case may be taken as a type from which variations are few and unimportant. Its pathologic aspect is clear, well defined, and characteristic, and in that sense pneumonia is always one and the same disease, whether primary or secondary, mild or severe, and whether terminating by crisis or lysis, recovery or death. For this reason I think we have come to base the prognosis too much upon the physical condition and environment of the patient and too little upon the etiology of the disease, which, it is scarcely necessary to demonstrate, is by no means always one and the same.

Pneumonia is a term applied to a pathologic condition, the chief and characteristic lesion of which is found in the lung. It was employed to denote an acute lobar consolidation before the bacterial origin of such a condition was discovered, and it is, unfortunately, still employed indiscriminately to describe a pathologic process which, however uniform its morbid anatomy, is not at all so in its causative factors. It is time, therefore, it seems to me, in the light of present knowledge, that we cease to apply this term to all acute lobar consolidations; or, better still, that we, continuing to use the term purely with reference to its characteristic anatomic lesion, shall in every case modify it by a proper adjective to denote the true nature of the disease process as relates to its etiology. In other words, that we shall name each pneumonia for its ultimate causative factor so far as it is possible. As, for instance. "pneumococcic" pneumonia, "streptococcic" pneumonia, "influenza" pneumonia, etc. I maintain that it is just as unwarrantable to neglect the exact determination of this feature in pneumonia as it would be in a case of suspected phthisis. Indeed, the steps necessary to be taken for this end are equally simple and very similar in both phthisis and pneumonia.

When this procedure shall have become a practice the prognosis in lobar pneumonias will cease, to a very large extent, to be based upon "personal equation," and we shall be eminently better qualified to estimate upon the probable course and outcome of the disease. Moreover, the knowledge thus added at the outstart will, no doubt, simplify and make more exact the treatment of the individual case. Vital statistics, when compiled with this feature in view, will have much more meaning, and for their practical application they will possess a much greater value to the sanitarian.

It is my object here, however, simply to point out the importance of ascertaining the nature of a pneumonia with relation to its etiology for the purpose of more accurately prognosticating the issue in any given case. To illustrate this point, permit me to cite briefly from my records of several typical cases among those which have come under my observation since having had this feature in mind.

CASE I.—Male, between fifty and sixty years of age, farmer by occupation. The history of the attack was typical. After a hard day's work, during which the patient felt as well as ever, he was suddenly taken with a severe rigor, followed by fever and attended by sharp pain in the right chest; a dry cough, followed by "brick-dust" expectoration in due time, great prostration, and at times a low delirium. Toward the end of the second week his temperature became remittent, with afternoon exacerbations and occasional sweating.

I saw the case in consultation early in the fourth week in the afternoon. The patient's temperature was 103° F.; pulse, 110. There was complete dulness over the lower right lobe, less marked over the middle lobe, and quite perceptible over the left lower lobe. Vesicular murmur was lost in the middle, right and lower portion of the lower left lobes,

[1] Read before the Michigan State Medical Society at Kalamazoo, Mich., May 4, 1899.

and no respiratory sounds whatever were to be heard over the lower right lobe. Expectoration was profuse and of a dirty brick-dust color. The urine was non-albuminous, responding negatively to Ehrlich's diazo-test.

Microscopic examination of the sputum demonstrated the presence in enormous number of the pneumococcus of Fraenkl, with practically no other micro-organisms. (This was rather unexpected in view of the remittent character of the temperature and the sweating, which suggested sepsis.) The diagnosis, based upon the findings, was acute pneumococcic lobar pneumonia, and the prognosis was very favorable for complete recovery, provided a secondary streptococcic or other pyogenic infection did not occur.

If seen early in the course of the disease such a prognosis could not safely have been made, for it is in these pneumonias that death on the eighth to twelfth day from acute toxemia occurs, but, having survived the first shock, the outlook for recovery was favorable. I have since learned that convalescence was slow but uneventful and complete.

Case II.—This case was under my own observation from the first, so that I had an excellent opportunity for complete investigation: Female, twenty-eight years old, had been under observation and treatment for pulmonary tuberculosis involving the left apex for two months prior to the onset of the pneumonia. She was feeling ordinarily well and was able to attend to her usual occupations. After two days of slight indisposition and moderate elevation of temperature a sharp rigor and rise in temperature to 105° F. occurred. Pain in the left chest, dyspnea, and prostration marked the onset of an acute lobar pneumonia, involving the whole of the left lung. Consolidation was the most complete I have ever seen. There was absolutely no respiratory sound except a bronchial tubular breathing, which came to the ear with a metallic, almost musical, sound. Cough and expectoration were entirely suspended. Exploratory aspiration failed to show fluid in the pleura or lung. Cyanosis of the lips and nails was marked. Passing over irrelevant details of the case the crisis occurred on the thirteenth day, with distinct improvement in subjective symptoms following immediately, and a return to some extent of the cough, which had been absent since the initial chill. Expectoration was, however, very scant. A glairy mucus by microscopical examination was shown to contain tubercle bacilli in "clumps" resembling pure cultures in arrangement, but there were no other micro-organisms. Within a few days the expectoration became mucopurulent and the tubercle bacilli gradually lost this peculiar arrangement, but were the only organisms found in the expectorated matter.

It is of interest to note that prior to the pneumonia cough was a persistent symptom. Expectoration was much more profuse and more purulent in character, while the bacilli were more scattered throughout the specimen. With the supervention of the typical pneumonia I was prepared to find a secondary pneumococcic infection, but as soon as expectoration was procurable the diagnosis of acute tubercular lobar pneumonia was made and a prognosis favorable, so for at least as recovery from the pneumonia was concerned, was allowed. It is in such a pneumonia as this, however, whether preceded by evidence of pulmonary tuberculosis or not, that hydrothorax is apt to occur as a complication, and, indeed, a serous effusion into the pleural cavity occurring in the course of a pneumonia may be taken as proof positive of the tubercular nature of the pneumonia just as purulent effusion in the course of pneumonia may be taken as evidence that the pneumonia is due, if not entirely, at least in part, to infection by pyogenic organisms.

In the case in point resolution proceeded slowly but uninterruptedly and the lung cleared up, leaving the patient no worse off than she was before the pneumonia. Subsequently, however, a serous effusion into the pleural cavity occurred and about three pints of fluid was aspirated.

Case III.—Female, about thirty-eight years old. A protracted, difficult placenta-previa labor was followed, at some interval, during which septic fever occurred (the history obtained was indefinite and vague), by phlebitis, and ten days after labor by the initial symptoms of acute lobar pneumonia, involving the two lower lobes of the right lung. This pneumonia ran an irregular course for three weeks, when abscess and necrotic changes became evident and I saw the patient for the first time. The breath was horribly foul, and expectorated matter contained shreds of broken-down lung tissue, pus, and the usual abscess detritus. The chief micro organism found besides the saprophytes, always present in such conditions, was the streptococcus pyogenes in chains of from ten to thirty elements. There were no pneumococci, influenza, or tubercle bacilli. The case was, therefore, one of acute streptococcic lobar pneumonia, probably originating in a septic thrombus from the involved veins in the extremities. The prognosis, when I saw the patient, was favorable for recovery, without serious complications or sequelæ.

Had a bacteriologic examination been made before the formation of abscess I have no doubt streptococci would have been the prevailing organism found. The prognosis then could have been made with fair degree of certainty as follows: Favorable for eventual recovery, with the probabilities, however, in favor of abscess or empyema as complications, and more or less impairment of the lung as a result.

Of course, necrotic changes occurring in the course of streptococcic pneumonia cannot ordinarily be foreseen. Gangrene, rupture of a pus-sac into

the pericardium or peritoneum, etc., must be regarded as *accidents* which cannot fairly enter into consideration in the prognosis of such cases. In the case in point, however, originating as it did presumably from a thrombus, necrosis was to be expected. This patient lived up to my expectations, and is at present quite well, although convalescence, as might have been expected, was tedious.

Case IV.—The last case which I shall cite in illustration is also one in which I have enjoyed excellent opportunity for study: Female, between fifty and sixty years of age, appeared with symptoms of a bad "cold," congestive rhinitis, dry cough, pain in the head, back, and legs, some rise of temperature and pulse rate, with slight rigors. For two or three days these symptoms continued, the fever increasing with great prostration, and on the fourth day a more severe chill with temperature of 103.5° F. was followed by the appearance of physical signs of lobar pneumonia involving the lower lobes of both lungs. The cough, which had been dry and persistent heretofore, now became productive of a mucopurulent expectoration which contained Pfeiffer's bacillus of influenza in great abundance; there were no other micro-organisms in sufficient number to be characteristic, and no pneumococci at all.

The diagnosis thus established at the very start was acute influenzal lobar pneumonia, and the prognosis was of necessity guarded, but on the whole favorable. The case pursued an irregular course, uncomplicated by other infections. Consolidation gradually disappeared, there was no crisis, and a tedious and protracted convalescence left the patient in a deplorable nervous condition.

There was no pleuritis during the course of this pneumonia, and of course no tendency to effusion; indeed, I have never seen the pleura affected in uncomplicated influenza, and do not believe such complications ever arise without other infection than that by Pfeiffer's bacillus. This is a broad statement, but one which I think will be borne out by observation. Many cases of pleuropneumonia, so-called pleuritis, dry and with effusion, are reported as "grip" complications, but so far as my experience or information goes these complications arise from multiple infections, made more easy, no doubt, by the depletion of the system by true influenza toxemia, but never directly due to Pfeiffer's bacillus, which we must admit as the sole origin of this peculiar toxemia.

In these illustrations I am aware that some objection is reasonable on the ground that such single infections are not the rule and that the great majority of pneumonias not dependent upon the pneumococcus are multiple infections. Moreover, many pneumococcus pneumonias, especially those running an irregular course, are no doubt cases in which from the start or sometime subsequent to the initial chill there is infection by more than one organism, but I have purposely chosen these cases of single infection to better illustrate the point, and while any pneumonia may present in a sputum examination several varieties of pathogenic organisms, there will always be found *a predominating, and so to speak, primary germ*, upon the natural parasitic history and pathogenic properties of which will to a very large extent depend the prognosis of the disease. The cases cited, then, are typical, and will, I think, be found safe guides so far as they go. There are, no doubt, pneumonias which do not fall into any of the classes mentioned. Further study with this idea in view by many observers will be necessary not only to make prognosis in such cases a more definite matter but to place a clinical value upon my own experience and corroborate or falsify my conclusions.

First, then, in conclusion, a pneumococcus pneumonia occurring in a previously healthy individual under sixty-five years of age tends to recovery by crisis, runs a distinct and definite course, is not complicated by pleural effusions, and, in patients who recover, does not permanently affect the integrity of the lung or cause abscess or gangrene. On the other hand, it furnishes by far the greatest pneumonia mortality; and death in the fatal cases is due to acute toxemia.

Second, tubercular pneumonia, occurring either as the initial stage of pulmonary tuberculosis, or in the course of the latter disease, runs an acute and oftentimes alarming course, is more irregular in its development, may terminate by crisis as distinct as that in pneumococcus pneumonia or by gradual subsidence, *is not attended by suppuration*, either in the lung or pleura, may, however, produce pleuritis, dry or with profuse serous effusion, is seldom, if ever, immediately fatal, and it is doubtful if its remote results upon the general tuberculous process are harmful.

Third, streptococcic pneumonia (including all pneumonias dependent upon infection by pyogenic organisms) forms a very large proportion of all pneumonias, runs a very irregular, prolonged and atypical course; is always the class in which empyema, abscess, or gangrene of the lung is to be feared; is the pneumonia in which septic complications in other organs are to be looked for, and in case of recovery of the patient, often more or less seriously impairs permanently the integrity of the lung or pleura.

Fourth, influenza pneumonia, if uncomplicated, runs a shorter course, in which less-marked disturbance with the body temperature is associated with much greater disturbance of the vasomotor nervous system and with profound prostration, does not tend to terminate by crisis, does not involve the

pleura, nor of itself permanently affect the integrity of the lung, and is seldom of itself fatal. On the other hand, this class of pneumonias more than any other predispose the lung to infection by other pathogenic organisms, among the more frequent of which (probably because of their omnipresence) are the streptococcus and tubercle bacillus, consequently this pneumonia is, more than any other, subject to complications and sequelæ arising from multiple infections.

When the bacteriologic examination relegates a pneumonia to its special class then a prognosis may be safely based upon such general principles as I have endeavored here to outline, guarded, of course, by the condition that it shall remain within its special class and subject to such modification as subsequent examination (which, it is needless to say, should be frequent) shall demand

It must be remembered that while almost all pneumonia sputum is likely to present many varieties of micro-organisms there will be *one* variety which will prevail in such predominance as to enable the physician to classify the case and with the exercise of sound judgment prognosticate its issue with a fair degree of certainty.

Finally I have purposely avoided citations from the prodigious amount of literature on the subject of prognosis in pneumonia; first, because in such a paper as this, to be read before a society, the chief object to serve is that of exciting a full discussion, an object which is too often defeated by tedious and unnecessary annotations and references, consuming time which could otherwise be given to discussion; and second, because in the literature to which I have access I have failed to find anything which takes up this subject from the point of view which I have endeavored to assume.

MEASURING THE INTENSITY OF THE HEART TONES.

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It has no doubt been a source of regret to many physicians who are habitually engaged in the examination of the chest that we are in possession of no accurate means of registering the heart tones to facilitate accuracy in determining the progress of our patients with heart lesions, or the action of cardiac tonics. There are different factors which normally determine the loudness of the heart tones. One factor is the varying conductivity of the different structures in the chest wall and between the thoracic wall and the heart. The chief factor, however, is the strength of the heart's action. Auscultation of the heart tones in the conventional manner not infrequently affords us no indication of cardiac strength if reliance is to be placed on the intensity of the tones in their selective propagation to different parts of the chest.

I have often been struck by the loudness of the heart tones in emaciated individuals in whom the action of the heart was found to be feeble, as determined by the sphygmomanometer and sphygmograph. In convalescents from typhoid fever the foregoing fact has been especially emphasized in not a few instances. In anemics we often hear very loud tones, even though the blood pressure is low, and again in dilatation of the stomach when that organ approximates the cardiac area, the tones by mere resonance are loud, even though the strength of the heart is reduced. In many emaciated persons it often happens that the heart tones are conveyed to the interscapular region, to the epigastrium, and even the head without any corresponding increase in the force of the heart. In such instances the thorax is practically a resonator. If then, in certain instances, auscultation is no trustworthy index to the force of the heart, have we not in the sphygmomanometer and sphygmograph clinical instruments of sufficient reliability to gage the blood pressure? Unfortunately, in the application of these instruments we must contend with the objectional personal equation and content ourselves with the determination of the blood pressure in the systemic circulation only. When the phonograph was first introduced I thought I saw in that instrument the consummation of my hopes, but after considerable experimentation it proved useless. In my "Manual of Diagnosis"[1] the results are expressed as follows: "In my investigations, which were varied in every manner possible, the recording of heart sounds was practically impossible. The fault rests with the phonograph. There is no question about the sensitiveness of the diaphragm for recording even the feeblest sounds, but the difficulty lies in reproduction. Even loud sounds emanating from the chest are with difficulty detected by an ear accustomed to the phonograph. When the reproducing needle is adjusted to the revolving wax cylinder a hissing sound is heard, the result of friction between the needle and the wax. It is this sound which interferes with proper reproduction. If this objection were obviated the phonograph would prove an ideal instrument in physical diagnosis."

The following method for measuring the heart tones is suggested for its simplicity. It is only relatively accurate. It is based on the simple physical principle that the intensity of sound varies inversely as the square of the distance from the sounding body,

[1] "Manual of Clinical Diagnosis," third edition, 1894.

hence the distance to which a heart sound may be heard depends upon its intensity, ignoring of course those adventitious causes of propitious conductivity. Between the area auscultated and the stethoscope a medium is interposed. Experiment has taught me that one of the best media is partially vulcanized rubber in the form of a rod, and just sufficiently soft as not to interfere with convenient manipulation. Such rods may be purchased in any store where rubber goods are sold. The circumference of the rods must equal the caliber of the pectoral end of the stethoscope in which they are to be inserted. The degree of insertion must be regulated by a notch cut into the rubber. The object of this regulation is to insure uniformity of results in the examination of individual patients. The rods may be of different sizes, varying in length from 6 to 26 centimeters, or even of greater length. Before auscultating the heart tones by this method, we must first mark on the chest the different points in the precordial region where the heart tones are heard with the maximum degree of intensity. Over each ostium we auscultate with the rod inserted into the end of the stethoscope, beginning with a rod of medium length and gradually increasing the length of the rod until one is attained through which the heart tones are no longer conducted. The tubes are numbered, and a record may be made in our case book after the following formula:

Mitral, I. tone	—6
" II. tone	—5
Aortic I. tone	—4
" II. tone	—5
Tricuspid I. tone	—6
" II. tone	—4
Pulmonary I. tone . . .	—4
" II. tone . . .	—5

According to the foregoing formula we conclude the following: That with a rod (No. 6) which is 26 centimeters in length we may still be able to hear the following tones: Mitral systolic and tricuspid systolic tones. A similar interpretation may be deduced from the other numbers. These figures possess no value for general application as the degree of transmission is dependent on the character of the stethoscope as well as the length of the rod employed. Each observer must cut his own rods of different lengths. With some kinds of stethoscopes the first mitral and tricuspid tones are still heard with rods fully 30 centimeters in length, whereas with other kinds a rod of half the length will no longer transmit the same tones. In some instances another method may be adopted. It is less reliable than the former method, especially in thin persons, owing to the increased conductivity of the thoracic tissues. As before, one marks on the chest wall the different situations where the heart tones, corresponding to each ostium, are heard loudest, and then proceeds in different directions until the sounds are no longer audible. The distance to which the sounds are propagated is marked and measured. The directions in which the sounds are auscultated have been determined empirically as follows:

Mitral Tones.—Auscultate along a line on a level with the apex-beat to the left axillary region.

Tricuspid Tones.—Auscultate along a line extending from the point of auscultation to the right axillary region.

Aortic Tones.—Along a line on a level with the point of auscultation to the right axillary region.

Pulmonic Tones.—From the point of auscultation to the left axillary region. The tricuspid and mitral tones are best conducted downward by the liver, but as a differentiation of the mitral and tricuspid tones over the hepatic region is impossible this direction cannot be employed. I will mention, parenthetically, that the liver is an excellent conductor of the heart tones, and when they are no longer audible by auscultation we can safely conclude that the lower border of the liver has been reached.

The following conclusions may be formulated:

1. The loudness of the heart tones may be measured by testing the distance to which they are transmitted from their clinical point of auscultation.

2. This may be determined by two methods. The first method consists of measuring the distance to which the heart tones are propagated along definite routes on the chest. The second method consists of introducing between the stethoscope and the chest wall a soft rubber rod of varying length, the tones gradually becoming less distinct as successive rods of increasing length are employed.

3. Of the two methods the latter is by far the more accurate, although this by no means represents an ideal attainment.

4. The employment of either method does away with memory in observing the progress of the strength of the heart in individual cases, and enables us to distinguish more easily any accentuation of the tones.

5. The order in which the tones can no longer be heard is as follows, beginning with the weakest tones: First aortic, first pulmonary, second tricuspid, second mitral, second aortic, second pulmonary, first tricuspid, and first mitral tone.

6. Until a universal stethoscope is employed we cannot hope to make the method of measuring the heart tones of general application, but must content ourselves with the application of the method to individual cases.

7. The first point beyond the hepatic region where the cardiac tones are no longer audible marks the lower border of the liver.

CLINICAL MEMORANDUM.

TETANUS TREATED BY ANTITETANUS SERUM; REPORT OF A CASE.[1]

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THE frightful mortality attending tetanus when left to run its natural course, and the almost complete failure of the ordinary therapeutic measures to favorably influence the course of the disease, leads us to look with favor upon any new remedy which promises benefit. The demonstrated infectious nature of tetanus, and the accepted therapeutic efficacy of the antitoxic treatment of diphtheria, and in minor degree, the streptococcus infections, together with the successful immunization of animals against tetanus cultures by injections of antitetanus serum, give a rational basis for the trial of this product in cases of developed tetanus. The considerable number of recorded cases exhibits a diminished mortality; and as in many of the fatal cases the serum was used only after the disease had already continued several days we may hope for a greater improvement when it is used early. Such a favorable case I am able to report:

Mrs. J., married, mother of two children, called on Dr. A. E. Grant to attend her on January 27, 1899. She gave a history of a long series of miscarriages and resulting uterine disorders, and stated that for several days she had been flowing excessively, and something had passed from her which was destroyed without examination. She had missed one period, and she supposed her menstruation was so profuse for this reason. She strenuously denied having in any way induced an abortion. On January 24th, three days before, she had experienced chilly sensations, and thought she had caught cold.

As the hemorrhage was severe, and Dr. Grant had no gauze or cotton with him he tamponed the vagina with a clean cloth furnished by the patient, which was soaked in a solution of mercuric bichlorid. Next morning she complained of stiffness of the neck and jaws, not being able to separate her jaws more than half an inch. Alarmed by these symptoms, Dr. Grant proposed a consultation. We saw her soon after noon, when in addition to the difficulty in opening her jaws and stiffness of her neck, she complained of soreness in the thoracic muscles. The facial muscles were not noticeably affected, though there was heightened reflex irritability. Her temperature was 99.5° F., and pulse 95.

We agreed that a thorough curettage of the uterus and irrigation of its cavity was indicated, and this was done, the uterus being irrigated with a solution of bichlorid 1 to 4000, and the uterus and vagina packed with iodoform gauze. She was then returned to bed and ordered full doses of bromid and chloral (though nausea prevented much being administered), and 4 c.c. of Parke, Davis & Co.'s antitetanus serum was injected under the skin of the abdomen. We saw the patient again together at noon on January 29th, and found the stiffness of the neck and jaws nearly gone. She was given an additional injection of 6 c.c. of serum. The nausea still prevented the administration of much medicine by the mouth. The packing of the uterus and vagina was removed and an antiseptic vaginal douche given. On the following day the stiffness of the muscles had entirely disappeared and the patient made an uninterrupted recovery.

This termination of such a grave disease is as unusual as it is gratifying. Indeed, it is so very unusual that it compels a close scrutiny of the diagnosis, for of all the forms of tetanus that following an abortion is perhaps the most hopeless. Gowers says that recovery is practically unknown. There are only two other conditions which could have been mistaken for tetanus in this case—hysteria and rheumatism. The latter frequently causes a stiffness and soreness of the muscles of the neck not unlike commencing tetanus, but rarely if ever affects the jaw. The patient was not subject to rheumatism, and had not caught cold, while her abortion, possibly self-induced by septic instruments, had certainly opened a channel for infection. Hysteria may more or less closely simulate tetanus. In regard to the differential diagnosis Gowers says: "In hysteria, tetanoid spasm is rare except as part of a convulsive attack, but trismus causing persistent closure of the jaws occurs in hysteria. It may succeed a convulsion and last till another, or may come on without obvious cause, continue a few hours or days and then suddenly vanish. It is prone to recur, and this character, the suddenness of onset, its complete degree, the absence of rigidity in the neck, and the presence of other symptoms of hysteria rarely leave any doubt as to its nature." There were no other symptoms of hysteria, nor was there any history of previous hysterical attacks, so that this fact, with the marked rigidity of the neck, enables us to exclude this condition.

White and Peterson say of hysterical trismus: "It usually appears suddenly after a hysterical convulsion and suddenly disappears and recurs, and lacks the nuchal rigidity and mental clearness of tetanus." The prompt response of the disease to the injection of the serum, which was used as soon as the diagnosis was made, favors the view that one reason for the slight benefit of serum treatment of tetanus hitherto has been its too late use. White and Peterson enjoin the early use of the serum, in addition to other therapeutic measures, and express the hope that it may be improved so as to be more efficacious.

[1] Read before the Colorado State Medical Society, June 20, 1899.

MEDICAL PROGRESS.

An Obscure Complication of Varicocele.—SMYTH (*Montreal Med. Jour.*, June, 1899) mentions a peculiar complication in a case of varicocele. It was a nodular mass which appeared in the upper part of the scrotum, very

tender and giving the patient intense pain. The testicle was not affected nor was there anything to be felt in the inguinal canal, though the dragging pain extended upward into it. Manipulation under chloroform produced no evident effect, and aspiration with a needle drew only fifteen minims of dark blood. The patient was taken to the hospital in an ambulance. During the journey he felt a sudden relief, and examination a short afterward showed that the tenseness had entirely disappeared. There was in the upper part of the scrotum a soft, tender nodule, apparently the result of the numerous hypodermic pricks, and a tender nodule was felt to the inner side of the internal ring. Operation was performed but nothing was found. The writer considers the differential diagnosis between hernia and a strangulation of one vein by the loop of another, and decides in favor of the latter complication. The patient recovered.

Cleaning the Hands with Horsehair.—FORBES (*Phil. Med. Jour.*, May 20, 1899) takes a flat bunch of curled horsehair instead of a brush and uses it in cleaning his hands, and preparing the operative field. The hairs are stiff enough to scrape away particles of dirt, and will not scratch the most delicate skin, as will the bristles of a brush. This little mop of hair can be sterilized and used for months without losing its character.

Neglect of the Teeth before and after Dentition.—HEAD (*Ther. Gaz.*, May 15, 1899) takes to task those who prescribe acid medicines without cautioning patients to protect their teeth from their influence. He says many a dentist has carefully brought a child up to the age of fifteen years, and then has seen his efforts spoiled by the medicine given in some acute illness. Another precaution wofully neglected is the washing of the mouth every four hours, during a severe illness. Some mild antiseptic solution should be held against the teeth for not less than two minutes each time. Milk of magnesia should be used at bedtime to protect the teeth from acid mucus during the night.

Head is a strong advocate of the lancing of painful teeth in infants. The pressure of one tooth upon a healthy nerve, while its edge is cutting through the gum, may not upset a child. But if the child is irritable, or if several teeth are coming at once, the physician should lance the gums. There need be no dread of making the gums hard by scar tissue, as no tissue in the body is more yielding than that of a scar.

Results of Operation for Stricture of the Urethra.—ISRAEL (*Deut. Zeitschr. f. Chir.*, vol. 51, p. 239), after an examination of the records of all the patients with stricture operated upon during the past eight years in the Moabit Hospital in Berlin, combined as far as possible with an examination of the patients in their present condition, advocates internal urethrotomy rather than external urethrotomy in all cases in which the stricture is in the bulbous portion. He found this to be the commonest seat of stricture, those patients who had strictures in the pendulous portion usually having one in the bulbous portion as well. Four patients died after operation, one of the deaths being due to miliary tuberculosis, and the others to shock, uremia, and sepsis. These all occurred in patients upon whom external urethrotomy had been performed.

Celluloid Thread for Sutures and Ligatures.—PAGENSTECHER (*Deut. Med. Woch.*, April 6, 1899) takes a good thread, boils it for half an hour in a one-per-cent. solution of soda, washes it in boiling water, and then dries it between sterile compresses. He then soaks it in a solution of celluloid, and passes it again through the same solution. Afterward it is sterilized by steam under pressure, and preserved for use either dry or in an alcoholic solution of bichlorid of mercury. Such threads have a smooth surface, they never tangle, they cannot absorb secretions, and are easily tied. For three years Pagenstecher has used these celluloid threads, to the exclusion of silk, and the use of catgut for ligatures has been greatly reduced. The results have been of the best, and the saving in expense considerable.

Trophic Affections of the Bladder Following Pelvic Operations.—After such operations, especially vaginal hysterectomy, symptoms of cystitis sometimes appear which are attributed to the presence of ligatures in the wall of the bladder. MIRABEAU after cystoscopic examination of a number of such cases states the condition to be one of atrophy of the mucous membrane with areas of edema which he attributes to trophic disturbances resulting from section of nutrient vessels. He found no ligatures. He considers the usual treatment, especially intravesical treatment, to be injurious, and advises stimulation of the local circulation by means of abdominal and vaginal massage, applications of iodin, glycerin, and sitz baths.

THERAPEUTIC NOTES.

A Common Cause of Crying in the New-Born and Its Relief by Water.—SOUTHWORTH (*Canada Lancet*, May, 1899) suggests that the uric-acid infarctions in the kidneys of the new-born may be a source of irritation and a cause for crying if the scanty supply of urine washes them out with difficulty. Thus a baby which had cried almost all of the second day of its life and had passed, during this time, no water, emptied its bladder of a half ounce of turbid brown urine when the cool hand was placed upon it. Boiled water, which should be given to the infant regularly pending the establishment of lactation, will dilute the urine and alleviate such discomfort.

Posture in Occipitoposterior Positions.—GREEN (*Bost. Med. and Surg. Jour.*, May 25, 1899) says that the advantage to be gained in the treatment of occipitoposterior positions by a proper application of the force of gravity is not as well known as it should be. He mentions an instance in which he was able to obtain a change from a posterior to an anterior position after the rupture of the membranes, but before pains had come on, simply by keeping the mother kneeling at the bedside a good part of the day. The following day she was delivered, after

four hour's labor, of a ten-pound child. Even after the head is in the pelvis the assumption of a lateroprone position on the side toward which the occiput is directed will generally effect rotation in cases in which it could only be brought about by manual interference if the patient remained continuously on her back. During the last week of pregnancy Green often advises a woman to lie at night in the lateroprone position, on the side toward which the occiput is directed, being able thereby to convert a posterior into an anterior position. During the first stage of labor the kneeling posture can be assumed from time to time with profit and comfort to the patient. When rotation has been obtained delivery can be accomplished in any prone position that is preferred.

The Control by Arsenic of the Ill Effects of Thyroid Extract.—MABILLE (*Rev. de Therap.*, May 1, 1899) hopes that he has found in arsenic a means of preventing the ill effects of thyroid extract, which are produced in some patients by this drug. The increased use of the thyroid gland, not only for myxedema, but for obesity, goiter, certain skin diseases, and in general for malnutrition, makes it important that there should be some means of controlling the vertigo, palpitation, dyspnea, anxiety, etc., from which patients who are particularly sensitive suffer. The writer observed that these symptoms disappeared in one of his patients when she was taking Fowler's solution and reappeared when she stopped the arsenic. From 2 to 12 drops of Fowler's solution at a dose were found to be sufficient to prevent any unpleasant symptoms even when taking 12 grains a day. Two other patients took arsenic with thyroid extract with happy results, and the arsenic did not weaken, apparently, the force of the thyroid extract.

Bromid of Ethyl Anesthesia —LARISCH (*Centralbl. f. Chir.*, April 15, 1899) gives in the form of an inaugural dissertation the experience of Partsch with bromid of ethyl narcosis. After using this anesthetic upon more than 120 patients this surgeon is enthusiastic in its favor, and regards it as an ideal anesthetic. The accidents which followed its use some years ago and which gave it such a bad name were due, he claims, to the administration of too much or too-concentrated vapor, or to the use of impure preparations. He employs only the purest drug (Merck's manufacture), dropping it on an ordinary chloroform mask. A stage of excitement was observed in only eight per cent. of adults and in no children. All patients wakened from unconsciousness very quickly and vomiting occurred in less than two per cent. of the cases. As the heart-beat and respiration are scarcely affected by it, the anesthetic is particularly useful in cardiac cases, and as it is quickly dissipated from the system, but not at all by the kidneys, it is recommended for use upon patients suffering from grave constitutional maladies, such as diabetes, sepsis, etc. The reflexes are never entirely abolished during its administration so that it requires a little practice to know how deeply a patient is under it, but the muscular system is sufficiently relaxed to permit of the reduction of fractures, etc. For use in minor surgery it has no equal.

The Coated Tongue.—WEAVER (*New York Med. Jour.*, May 13, 1899) says that the coating of the furred tongue is full of fungi, and that the bacteria, innocent or infectious, as the case may be, are washed into the stomach with each meal. In disease there are abnormal elements in the secretions and excretions. When abnormal saliva is thrown into the mouth and subjected to the action of the numerous micro-organisms of fermentation, more or less of the solid matters are thrown down and constitute a salivary precipitate, which lodges on the teeth and on the dorsum of the tongue, also on the gums and lips, which, in cases of typhoid fever, is known as sordes. This salivary precipitate can be recognized on the teeth, as it roughens their surface. It is easily removed by the use of the tooth brush. It covers the teeth as a whitish deposit which microscopically shows the different forms of micrococci and bacilli. Upon the tongue it is allowed to remain until it becomes very offensive, unless it is systematically removed by scraping.

When a physician is consulted regarding a foul breath or coated tongue he ought to advise the patient to procure a tongue-scraper and diligently clean the tongue every morning as a part of the morning toilet, using after it a disinfectant mouth wash on the tongue and as a dentifrice. This method will remove the foulest odors from the breath. The same deposit appears on the tongue every morning and must be removed as often.

Every surgeon who has a coated tongue and wishes to be aseptic should look to this possible source of infection, for in coughing, sneezing, or even speaking, it is known that the breath takes with it particles of moisture from the mouth and throat. And every patient who is to have an operation about the mouth or throat should have his tongue cleaned and disinfected. Every fever patient should have his tongue systematically cleaned to remove just that much self-infection. And every person who wishes to be agreeable in the society of others should remove the foul coating on the tongue and with it the offensive odor of the breath.

Prophylaxis of Ophthalmia Neonatorum. — CASTILLO (*Rev. de Therap.*, April 15, 1899) says that many troublesome affections of the eye, which sometimes result in blindness, might be avoided if accoucheurs were more careful in the use of prophylactic measures. The genitals of every pregnant woman ought to be minutely examined. If there is a leucorrhea it should be examined bacteriologically, since the presence of gonococci introduced perhaps by the father, who thinks himself completely cured of an old gonorrhea, makes antiseptic irrigations preceding the confinement especially necessary, though they should be used whenever there is original discharge. When the child is born it should have its eyes wiped immediately with absorbent cotton and then washed with boiled warm water. The use of antiseptics is not advised except in those cases in which the vaginal secretion of the mother contains gonococci. Or to insure greater safety a solution of formal 1 to 1000 may be used daily, as it is not irritating and has both an antiseptic and anesthetic action.

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SATURDAY, JULY 8, 1899.

THE BUBONIC PLAGUE AND OUR WESTERN COAST.

WE quoted some time ago from the *Indian Medical Record* the editorial opinion that Bombay and Calcutta were doomed cities, because of the practical impossibility of ever getting their sanitary conditions into reasonably good shape. It is evident then that the present danger to the civilized world from plague is to continue for some time, and that it is not so much special precautions against incidental exposure, because of a single infected vessel, as a thorough system of quarantine against certain Eastern ports that is needed The conditions that have developed for the United States in the Far East during the last year emphasize the necessity for a complete and uniform system of quarantine on our Western Coast. Our commercial intercourse with the East is assuming much more importance than before. The annexation of Hawaii gives us another and most vulnerable point in the matter of public health and the importation of disease.

The work of the Marine Hospital Service has so far been effectual, and its service can be depended on to institute effectual quarantine wherever its powers and facilities are adequate. With our extensive Western coast line, however, under the new conditions that are coming in, the lack of uniformity in quarantine regulations may constitute a serious source of danger. That good quarantine regulations can be effective British colonial history for the last four years proves. Despite the existence of the plague at a number of important points along the lines of colonial commerce the British Government has been able to prevent its spread from the originally infected districts. The successful international quarantine of the Red-Sea district and of the Suez Canal has been especially deserving of applause and has shown how much can be accomplished by modern sanitary science in the face of the most serious difficulties if it is but given the opportunity.

The problems involved in our own quarantine regulations, East and West, against yellow fever and the plague, make evident the necessity of some central authority clothed with plenary power and uniform regulations to take complete charge of both our seaboards so as to effectually guard the country's health. The American Medical Association at its recent meeting voiced the sentiment of the medical profession of the country in formally counselling the establishment of a National Department of Public Health, to be presided over by a member of the President's Cabinet. As our commercial relations become more extensive this becomes more and more a necessity. Let us hope that its advent will not be delayed ununtil some epidemic makes fatally plain the lesson that is so patent already.

CEREBROSPINAL MENINGITIS AS A PANDEMIC DISEASE.

As we noted editorially at the time, the discussion of cerebrospinal meningitis at the recent meeting of the American Medical Association at Columbus brought out especially the fact that the disease is much commoner here in America than is generally supposed or the text-books seem to teach. But practically the same thing appears to be true all over the world. The crowding together of soldiers in this country under especially unhygienic conditions during the recent war led to an outbreak of the disease as an epidemic in several of the camps. During the late Turco-Grecian War reports of the same

tenor came from both armies. At Omdurman and Khartoum the British soldiers suffered in a similar way, and the epidemic at Omdurman was especially severe and fatal.

It would seem then that the germs of the disease are practically universally present, and that only a favorable opportunity is necessary, as when resistive vitality is low, to give the disease a suitable nidus. And after its passage through a series of susceptible organisms it takes on a virulence that makes it fatally epidemic in character. Its manner of transmission remains as yet a mystery. During the present year we have had reports of the disease as an epidemic in various parts of the country, especially in the middle West and South, and our Philadelphia correspondent quotes from the Pennsylvania State Board of Health reports the statement that there were in the city of Philadelphia during the month of May twenty-two cases of cerebrospinal meningitis with fourteen deaths. The subject of the frequency of the disease and its mode of transmission evidently demand careful investigation.

The affection has of late acquired additional interest from the announcement by Professor Schultze of Bonn (*Muenchener Medicinische Wochenschrift*) that, in a case of typical anterior poliomyelitis in which the subsequent course of the case—the atrophy of muscles, etc., had confirmed the original diagnosis, lumbar puncture disclosed in the cerebrospinal fluid the presence only of the meningococcus intracellularis—the micro-organism that Weichselbaum demonstrated to be always present in fatal cases of cerebrospinal meningitis and which is generally accepted now as the cause of that disease. If it should prove that anterior poliomyelitis in only certain cases is really a mild cerebrospinal meningitis (we have realized for some time that it is some form of acute infectious disease) it will greatly add to the interest of both affections.

The sporadic cases of anterior poliomyelitis that occur with such comparative frequency and over so wide an extent of territory may help to explain how cerebrospinal meningitis is kept in existence and how its transmission occurs so insidiously. It would throw light too on the sudden and apparently unaccountable outbursts of the disease by recognizing that its passage through a series of susceptible organisms has suddenly given it increased virulence.

IS IT PROPER FOR A PHYSICIAN TO EMPLOY A PATENTED DRUG?

In discussing this question, it is necessary to clearly define at the outset what is meant by a "patented" preparation. Patent medicines, so called, are not as a rule patented but are protected by being accorded a copyright of the name and by the customary use of that name as a trade-mark. Strictly speaking, a patent medicine is one which is made by a patented process, which process has been devised as the result of thought or experimental research, and is quite as much entitled to Governmental protection as is the result of the thought or experimental research which ends in the invention of any machine which is of distinct benefit to the human race. If the general theory of patents is correct, that the inventor of industrial articles is entitled to the sole benefit of his ingenuity for a certain period of years, the chemist is equally entitled to similar reward, as by reason of his skill he has produced a drug which is of distinct value to his fellow men.

The term chemist or druggist here is used advisedly, in distinction from the term physician, because it is generally held that the higher ethics of the medical profession does not permit its members to patent remedial drugs or instruments. We are therefore not in favor of physicians patenting the results of their genius, but the question before us is whether a physician shall use substances which have been patented by persons outside the bounds of the medical profession.

It seems to us that this question should be answered unquestionably in the affirmative, first, because many of these substances are of very decided value and, therefore, it is to the interest of the profession to use them, and secondly, because the physician has no right to deprive his patients of chemical products which he knows are specially indicated simply because he does not approve of the methods by which they are manufactured or protected. By force of circumstances, physicians have within the last few years continually prescribed remedies which are patented, as antipyrin. But the patents on antipyrin have expired, and the profession and laity are now enjoying at the simple cost of manufacture and distribution the benefits of the chemist's skill and labor without depriving him of the just reward that is universally granted to inventive genius.

There is a class of preparations which we believe physicians should carefully avoid using, namely, medicinal substances advertised to the laity. These should be avoided not from the business standpoint that they deprive the profession of practice, for this they do not do, because patients who take these preparations usually do so with such disastrous effects that the profession is pecuniarily benefited in the end by acute cases being transferred into chronic ones, but because the advertisement of these preparations to the laity causes non-medical readers to dose themselves with compounds which in many cases are not only useless but distinctly harmful. The products of those manufacturers who sell a preparation to the medical profession with the right hand and the same preparation to the laity with the left, should also be carefully avoided in writing prescriptions.

ECHOES AND NEWS.

Diplomas Given to Nurses.—The Training School for Nurses of the Manhattan State Hospital on Ward's Island held its second annual graduation exercises on June 14th. There were 110 graduates, of whom 69 were women.

Dr. Austin Flint, President.—Dr. Austin Flint was elected President of the Medical Association of the Greater City of New York, which held its stated monthly meeting at the Fifth Avenue Hotel in New York on June 12th.

Increased Hospital Accommodations in Paris.—The Municipal Council of Paris is considering an expenditure of 72,000,000 francs for the erection of additional hospital accommodations. This amount of money would be sufficient to provide 2810 new beds.

Post-Graduate Medical School.—The eighteenth annual announcement of the New York Post-Graduate Medical School shows that 523 Doctors in Medicine from 57 States, Territories and countries, have attended its courses during the year ending June 1, 1899.

Wedding Gift to Hospitals.—Mr. Arthur P. Heinze of Brooklyn and Miss Ruth Noyes of Butte, Montana, were married in the latter city on June 15th. After the ceremony Mr. Heinze and his brother gave $5000 each for the establishment of emergency hospitals in Butte.

Spurious Sanatorium Raided.—The house at 9 East Twenty-seventh street has been raided as a disorderly house. For the past year a woman calling herself Dr. Frances McCullough has conducted there what she termed a sanatorium. All the women were dressed as nurses.

Fifty Ambulances Missing.—Fifty hospital ambulances, which were shipped from Chicago to Tampa, Florida, more than a year ago by the local army officials to be forwarded to Cuba for the use of the United States troops on the island have been lost. Thus far there has been no clue to the missing property.

The Seaside Hospital.—The new building of the Seaside Hospital at New Dorp, Staten Island, was dedicated on June 16th to the work for which it was erected by St. John's Guild. The new building, which is an addition to the old one, is a four-story brick fireproof structure, and is fitted with the best modern sanitary appliances. Last year 2057 patients were treated at New Dorp.

Expectoration in Hoboken.—Hoboken is setting a good example. An anti-spitting ordinance is being enforced in that city. Policemen are ordered to warn those who spit and to arrest upon a repetition of the act. There is a fine of $10 for the first offense and of $25 for a second offense. Spitting is prohibited in all public places except into cuspidors, which are furnished by the city.

The Destitute Blind Relieved.—$35,000 in gold was distributed among 700 blind men and women at the office of the Department of Charities of New York City on June 13th. By a provision of the charter $75,000 is appropriated for yearly distribution to the destitute blind of the city. The remaining $30,000 will be distributed among the blind poor of Greater New York outside the Borough of Manhattan.

Typhoid along the Ohio.—It was reported from Wheeling, West Virginia, on June 13th, that typhoid fever is epidemic in many of the towns along the Ohio River from Pittsburg to Cincinnati. Its prevalence is attributed to the deleterious conditions produced by the big flood of last spring. It is noteworthy that towns having water-supplies far removed from the river have fared no better than communities which depend solely upon the muddy and filthy water of the Ohio.

A New Cancer Hospital.—On June 19th there was established in Perry street near Greenwich avenue in New York City a branch of the French Catholic Charity known as the "Women of Calvary" for the gratuitous treatment of indigent female cancer patients. The first House of Calvary was founded in Lyons in 1842, and in 1874 there was another established in Paris; another in Saint Etienne soon followed, and in 1881 a fourth in Marseilles. In 1886 a house was opened in Brussels, Belgium, and in 1892 another was founded in Rouen.

The Working of England's Inebriate Act.—An attempt has been made recently to get a woman of North London committed to a drink-cure establishment, under the provisions of the Inebriate Act, which went into effect at the beginning of this year. It was shown that the woman had been convicted of drunkenness five times this year, but the magistrate refused to grant the request on the grounds that the act referred to respectable women who had fallen victims to the craving for drink, while the prisoner did not seem to him to be of that class. The case will be appealed.

No Bubonic Plague at San Francisco.—Dr. Wyman, surgeon general of the Marine Hospital Service, denies the existence of bubonic plague on the ship "Nippur Maru," in the harbor of San Francisco, as reported in the daily press. The two Japanese who jumped overboard from the ship were stowaways who connived with members of the ship's crew to escape, and were drowned in trying to evade the customs patrol which had been established around the vessel. They were strong men, and free from disease. The members of the crew and the passengers are all well.

The Passing of Homeopathy.—Under the above title the *Cleveland Journal of Medicine* records the fact that no less than fifteen homeopathic practitioners of that city, after having spent the winter in study at the Cleveland College of Physicians and Surgeons (regular) have received the degree of M. D. An equal number had previously done so, so that in Cleveland at least there seems some reason to justify the title to the item above given. The editor commends to the consideration of their professional brethren these men who have had the honesty to give up false claims at the cost of no little personal trouble and expense.

Yellow Fever.—The Marine Hospital Service reports that from May 6th to 19th there were, at Rio de Janeiro, thirty-four cases and seventeenth deaths; at Havana, June 8th to 15th, one death; at Matanzas, June 30th, one case. Ten cases were reported among the troops of the garrison at Santiago on July 1st, five cases July 2d, and five cases July 4th. There have been thus far seventy-nine cases of the disease there and fifteen deaths. The quarantine against the troops is very strict. No soldiers are allowed in the city except a small guard about the arsenal. There are no cases among the civilians.

Tests upon Tuberculous Cows —Experiments upon tuberculous cows which have been conducted at the Ohio Experiment Station throws some doubt on the correctness of the theory that tuberculosis is communicated by the use of the milk of consumptive cows. Two years ago eleven cows were condemned by the tuberculin test. They were segregated, but in no other respect was any change made in their care. Their milk was fed to calves one of which, after having been thus nourished for seven months, showed no reaction with tuberculin, and no tubercles were found post-mortem. The eleven cows were slaughtered recently, and the government inspector condemned the carcasses of only two of them as being unfit for food.

The Case against Dr. Cleaveland.—At the preliminary hearing on the third charge (two previous indictments having been dismissed for want of evidence) against Dr. Trumbull W. Cleaveland, which was held before Magistrate Wentworth on June 14th, Bartow S. Weeks, Esq., counsel for Dr. Cleaveland, read a long itemized bill for the Carhart baby's funeral expenses, which he said had been sent to Dr. Cleaveland for payment. The bill footed up to $727.60. Among a great many items were the following: Mourning for Mrs. Carhart, $35, mourning for Mr. Carhart, $15, mourning cards and stationery, $3, stone $166, care of grave, $1, photographs of baby after death, $20, vocal music at funeral, $20, organist, $20, sexton, $10, a stateroom on Fall River boat, $2, etc., etc. This looks extremely like a case of malicious prosecution. It is not surprising that the case, as announced in our last week's issue, was promptly dismissed.

The Pestilential "Christian Science."—The lay press daily reports cases of death and misfortune which are due to the presence among us of this pernicious cult. The evil is becoming so great that in order to correct it some other means will have to be employed than mere ridicule which usually suffices to kill movements akin to this, such as have originated either in abnormal mental processes, or in the deliberate purpose of their originators to humbug humanity. At Elgin, there died in the Illinois Northern Hospital for the Insane, on June 18th, Ellen L. Gilson. In this institution were also Gertrude, the daughter of the deceased, and Elmer E. Day, the brother of the deceased. All lost their reason through the study of Christian Science. At Minneapolis, Minn., on June 20th William E. Bradford died without medical attendance. He had been ill since June 1st. Christian Scientists had "treated" him. Miss Eva Banfield, a Christian Scientist, was sent to the Buffalo State Hospital on June 22th, having become insane. Joseph Caig died in Philadelphia on June 22d of "heart disease," so the autopsy showed. He had had no physician. A Christian Scientist was his "healer." At Falls City, Nebraska, the three-year-old child of George Sperry became ill. The mother, a believer in "divine healing," would not permit a doctor to be called. The child having rapidly became worse the father pleaded with a physician to treat it. This was done and the child grew better, and was on the road to recovery. One night the physician's son remained with the child and it was only by force that he administered to it, the "healers" swarming about him all the while, and saying everything he did was instigated by the devil. When the doctor left the next morning they threw the medicine away, locked the father in the kitchen, and prayed over the child until it died. This was on June 22d. Mrs. Porcella of Cranford, New Jersey, died on June 22d. A year ago she became a Christian Scientist. Shortly after this she contracted a severe cold, which she paid no attention to. Then phthisis appeared. But she would not be treated by medical men until three weeks ago. Thus does the ghastly procession pass before us. It is pleasing to be able to record that some steps are being taken to restrain this evil. At a meeting of the Medico-Legal Society of New York on June 21st the President was authorized to appoint a committee, whose duty it shall be to investigate the methods of the "Christian Science healers." In Philadelphia also something is being done by the County Medical Society whose President, Dr. Solis Cohen, considers that "important issues in public health are involved which give the State the right to interfere in order to protect children and other helpless persons from their parents or guardians. Moreover, these issues give the State the right to interfere to protect the community from contagious diseases which

may spread if not properly treated and do much harm to the community."

Distinguished Medical Visitors to America.—In the decennial celebration of Clarke University, Worcester, Mass., which commenced July 5th, two distinguished foreign medical men have taken part—Professor Santiago Ramon y Cajal of the University of Madrid, Spain, and Professor Angelo Masso of the University of Turin, Italy. Professor Ramon y Cajal will be recognized by American medical men generally as the well-known investigator into minute nervous anatomy, whose work during the last ten years has attracted world-wide attention. He is practically the only Spanish member of the medical profession whose work is known outside of the confines of Spain, and almost the only Spanish scientist who in our generation has made in any line distinct contributions to scientific knowledge. His work met with little encouragement in university circles in Spain itself until the interest of the outside world in it compelled its recognition. Professor Ramon y Cajal has gathered around him at Madrid a corps of workers in minute anatomy, and especially in the normal and pathological histology of the nervous system, all of whose contributions are now eagerly awaited, and the results noted by all other workers in these lines. Professor Angelo Masso is best known perhaps for his work in recent years upon the ductless glands, and especially upon the interesting questions involved in the parathyroid glands and their relation to the thyroid and to the general nutrition and metabolic processes of the organism. A discussion carried on through the medical journals for some time with Professor Gley of the Sorbonne on this subject brought him into a good deal of prominence a few years ago. It is to be hoped that both these distinguished medical visitors will meet with a suitable welcome from the profession wherever they visit in this country.

CORRESPONDENCE.

THE AMERICAN MEDICAL STUDENT ABROAD.

MEDICAL STUDY AT THE SMALLER GERMAN UNIVERSITIES.

FOR most medical men medical study in Germany means courses taken at Berlin or Vienna, or perhaps, Munich or Leipzig. Too often it is forgotten that the younger and more pushing men, the men with a present and a future in medicine, though perhaps not yet with a past, are as a rule doing their work in the small German university towns. Of course the younger men have not as yet won that reputation across the sea that the attainments of older men have brought to them, but instead of resting on their oars in a very proper elderly conservatism they are pushing their way in the very forefront of medical advance; they are doing the work that will later put them at the head of clinics and departments in Vienna and Berlin and Leipzig and Munich, while just now they are in that precious stage of youthful enthusiasm for progress and discovery that makes personal contact with them an incentive to original work such as can be imparted in no other way.

It is to be remembered that advancement very seldom comes to the German assistant professor at the university where he spends his early years of teaching. He must have had some years of experience in charge of a clinic or institute at one of the smaller universities; he must have shown his prowess of initiative and his capacity for independent work before he will be called to a chair in one of the large universities. The present professors at Berlin and Vienna, for instance, have, with very few exceptions, passed through a preparatory novitiate at more than one smaller university before their call to the large cities. Professor von Leyden was at Königsburg and Strasburg, Professor Gerhardt at Jena and Wurzburg, Professor König at Göttingen, Professor Nothnagel of Vienna after being assistant at Berlin was at Jena we believe, Professor Gussenbauer was at Prague. It is well understood by the assistants at the large clinics that direct promotion at a great university is practically out of the question. "Unless" as one of them once said to me, "I should turn the medical world half upside down." The young men accept the full or ordinary professorships at the smaller universities, though as a rule the salary is not a very tempting one, because they fully appreciate that this is the next and essential step in their career as university professors.

It is the work being done by these younger men particularly that is keeping German medicine in the van of medical progress. Contact with them is a precious thing and should constitute a part of the prospect to every young American going abroad. Of course the work in the smaller university towns has its drawbacks because of the small amount of clinical and pathological material that there is to work with. It may readily be imagined that Jena with about 10,000 people, Marburg with 15,000, or Griefswald with something less than 25,000 cannot furnish the variety of cases, the multiform complications and sequelæ, and the anomalous pathological conditions that would be desirable for purposes of university and especially post-graduate study. It must be remembered, however, that practically all of the poorer classes, who represent a much larger proportion of the population than here in America, are treated at the hospitals and in the university dispensaries; that the reputation of professors brings material from the neighboring country side, and that certain arrangements are made to supply hiatuses in pathological material by the university authorities from larger centers.

The principal advantage to be derived from attendance at the smaller universities is that personal attention is secured in whatever the student undertakes, and if the worker or investigator be but serious in his labors nothing seems too much to do for him. The contrast in this regard from the spirit of indifference or perfunctory fulfilment of duty that has been paid for which so often characterizes the attitude of clinical assistants and others engaged in work with Americans at the larger universities is most notable. For the theoretic branches especially, for pathological anatomy, for physiology, for bacteriology,

and the like the smaller universities are in a position to give much more thorough and satisfactory courses to those who really seek a thorough knowledge of certain subjects in medicine and not a hasty superficial glance at everything medical knowable and a few other things besides.

Additional advantages at the smaller universities are that the absence of large numbers of Americans with whom in the larger cities the student is continually thrown in contact enables him to pick up German much sooner and better. Constant association with Germans forces the knowledge of the language upon him in less than half the time that the student in the larger cities requires unless he is eternally vigilant in grasping opportunities. Another advantage and one not to be despised is the knowledge the student gets of real German university life and of the German university town as such. Large cities are unmaking the old university life all over the world and it is becoming harder and harder to understand certain historical details that German university towns still preserve. To one who is interested in German national life (and what doctor is not interested in knowing the people as they are) life in a small town will give certain true impressions of the genuine national life of the people that cannot be obtained in a large city. All the large cities of the world are being recast in the modern mold of practical municipal advancement which is rapidly doing away with all that is characteristic in them, and the people are being modified by their environment. The true spirit of advance has not yet touched the smaller towns or only enough in passing to make them sanitary dwelling places without interfering too much with their interesting natural conditions.

After this rather long prelude I may add a word or two of some of the smaller German universities at which I have had a brief personal experience, sufficiently recent for my impressions of them to be of practical service to others perhaps who may contemplate a European medical pilgrimage in the near future.

Bonn is beautifully situated just on the most picturesque part of the lower Rhine, below the Siebengebirge, the famous scenic seven mountains and is *the* fashionable one of the German universities. To Bonn the present Emperor went as a student and many of the sons of the German nobility go there for part of their course at least. The opportunities for work are excellent and the material (Bonn has some 50,000 inhabitants) reasonably plentiful. Schultze in medicine, Schede in surgery, and Pellman in mental and nervous diseases are all well and widely known. They are not young men but they have associated with them some excellent assistants and are themselves not beyond their days of enthusiastic investigation. Bonn has the disadvantage from one point of view of having a good many English and American visitors during the summer semester, but is a delightful place in which to stay.

Griefswald in the distant north not far from the Baltic Sea is a very charming old town, whose university, owing to the rivalry with the University of Rostock in the duchy of Mecklenburg-Schwerin, is kept at a very high standard by the special efforts of the Prussian Government, which takes this means (and a very good one it is) of demonstrating the advantage of living under Prussian rule. In the faculty are Löffler, Grawitz, who is prominently mentioned as the prospective successor of Virchow at Berlin, Mosler in clinical medicine, and Landois the physiologist, whose text-book is so well known in this country. I do not know of any place where a summer semester of investigation or experimental work in one of the theoretic subjects with occasional excursions into practical medicine could be passed more pleasantly than here on the cool pleasant shores of the Baltic Sea.

Heidelberg is, if possible, more beautifully situated on the upper Rhine than Bonn lower down. Around it cluster some of the most characteristic traditions of German university life, and the German student, with all his oddities, the only ones we are apt to consider at a distance, and his many excellent and admirable qualities which only intimate association with him brings out, may be seen to better advantage here than anywhere else. Erb and Czerny are here, which is enough to say from a medical standpoint, but there are others.

Jena is one of the old German universities not so noted for medical as for other work but where excellent opportunities are given. Stintzing in medicine, known especially for his work in therapeutics, Riedel who has made a name recently in surgery of the biliary tracts, Binswanger in mental and nervous diseases, and Ziehen in physiological and pathological psychology are here.

There is an air about Jena in its picturesque location, in the midst of its traditions, in the pretty old university town as yet unspoiled by any, even the slightest, tincture of progressive modernity that makes a stay there most interesting.

Marburg is another university town that is most beautifully situated. These four: Bonn, Heidelberg, Jena, and Marburg do not suffer by comparison with one another as far as regards picturesque situation. The two first are better known to the tourist because of their situation on the Rhine, but personally I should not care to have to make the choice from their scenic advantages alone. Marburg like Greifswald has been especially well cared for because of its nearness to a rival university, Giessen in the duchy of Hesse. It has a magnificent set of new university buildings and especially an entirely new set of medical clinics. Mannkopf is here in medicine, Küster, whose work especially in renal surgery has brought him into prominence of late, is in charge of the surgical clinic. Frederick Muller is here as an extraordinary professor in medicine, Behring is here and has besides the university laboratory in the town a magnificent private laboratory most beautifully situated on the heights above the town. The whole faculty at Marburg is far above the average. The salaries paid professors are higher than those at other universities because of certain funds that come to the Prussian Government and certain obligations it assumed in the matter of university and public education when it deposed the reigning duke and took up the ruling power in 1866.

The German university at Prague can scarcely be

called one of the smaller German universities despite its scant 300 medical students. There is no dearth of material for clinical and pathological work. Of the infectious diseases generally, even smallpox, of contagious skin diseases or those due to dirt and neglect; of the varied complications of disease due to lack of sanitary arrangements Prague has a most abundant supply. Great improvements in sanitation have been made in recent years, but a large field for clinical work in the branches that depend for their material on defective sanitation still remains. From the well known character of the professors at Prague it seems needless to add that excellent advantage is taken of the material so amply provided. Von Jaksch and Pribraam in medicine, Wölfler in surgery, Pawlik in gynecology, Ganghofner in children's diseases, Chiari in pathology, the two Picks, one in dermatology the other in neurology and mental diseases are all names to conjure with in the medical world. Of course Prague has for years been noted for its excellent teaching in obstetrics and still retains her reputation in this respect. On the whole the opportunities for study at Prague are excellent and are not taken advantage of as much as they would be if the conditions were known better abroad.

I have mentioned somewhat in detail these six German universities because of personal familiarity with them. By reputation one gets to know in Germany certain other universities that present some good opportunities. Breslau, where the rivalry with the Austrian universities has led the Prussian Government to devote a good deal of money and energy to the making of an excellent university in all departments and many of whose professors are among the best known in German medicine. The University of Göttingen of other fame than medical but where Orth, who is also prominently mentioned as Virchow's possible successor, is doing some excellent work in pathology; Strasburg, where Von Recklinghausen's work in pathology is well known, Naunyn is doing some of the best clinical and experimental work in Europe, and Minkowsky's physiological observations are eagerly looked for by the medical world. No effort has been spared by the German Imperial Government to give the new German university that succeeded the French university one of the best teaching faculties in Europe, and a teaching plant second to none. In this, as in everything else that Germany has seriously undertaken of late years, it has succeeded admirably.

I fear that my catalogue of the minor German universities has extended itself until it has lost its value as counsel and become a mere list. Very few German medical students, however, limit their studies to two universities, but spend at least a semester at three or four. The plan has its advantages in the breadth of view it gives as to the comparative value of certain lines of medical advance. It would certainly be of distinct benefit to Americans not to limit themselves to any one school of teaching. Attendance at several universities demands several years abroad, however, and the American student is apt to go with the idea that he can absorb all that he will care to in a year or less. The sooner this notion is abandoned the better.

The Americans and Englishmen whose foreign studies have been of special service to them, of whom the late Professor Kanthack of Cambridge, and our own Professor Welch of Johns Hopkins are notable examples, have all spent considerable time at patient investigation, usually in one definite line and without spending themselves on a number of subjects. It is this readiness to devote sufficient time and care to medical investigation that constitutes, as I called attention to once before in the MEDICAL NEWS, the essence of the good work done by the Japanese medical students in Europe. When the younger American medical students are ready to devote themselves in the same way to patient clinical or experimental work not for one, but for two or more years, they will return after their European experience much better fitted to take up the work of advancing scientific medicine in America than now, when application to too many supposedly practical subjects gives but a superficial knowledge of many things that are not long of benefit to the rising medical man.

JAMES J. WALSH, M.D.
1973 SEVENTH AVENUE, NEW YORK CITY.

BLOODLESS TONSILLOTOMY.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—For quite a number of years I have been very interested in the excision of tonsils, and in reading the article by Dr. Dawbarn, in the MEDICAL NEWS of May 20th, thought that his idea a good one. Although I have never had a severe case of hemorrhage from a tonsillotomy I have always expected it, as I find the tonsils in children, as a rule, do not bleed much and are devoid of blood-vessels. I avoid taking out tonsils in adults as much as possible, especially if they are hard, and always examine with my finger to find out whether there is any anomalous condition of the arteries. Dr. Dawbarn's article, entitled "Bloodless Tonsillotomy," in the MEDICAL NEWS of June 10th, is a thing not entirely to be desired, as I think the local blood-letting that comes from tonsillotomy is a part of the good which is derived from the operation, and which you also get from the operation on the tonsil of Luschka, or on adenoids, and when I have very little bleeding I frequently use a little friction to bring it about. The mouth-breather, or the child with chronic hypertrophied tonsils, is the patient that gives the throat and nose specialist the most trouble to-day, and when the physician can relieve the patient he receives the thanks of the parents.

Yours truly,

CARR LANE, M.D.

ST. LOUIS, June 24, 1899.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

ILLINOIS SOCIETY FOR THE PREVENTION OF CONSUMPTION—STATE BOARD OF HEALTH MATTERS—ANNUAL MEETING OF THE CHICAGO MEDICAL SOCIETY.

CHICAGO, July 3, 1899.

A MEETING of prominent physicians and laymen was held June 20, 1899, in the Hall of the Chicago Medical

Society, and the organization of the Illinois Society for the Prevention of Consumption was effected. Several speeches were made in which measures both for the prevention and extermination of the disease were discussed. Dr. L. G. Marillat, speaking on behalf of the Chicago Veterinary Society, presented a summary of the points which he said could be easily demonstrated: (1) That the tuberculin-test for bovine tuberculosis is sufficiently reliable to be practical. (2) That the sale of milk from tubercul us cattle should be absolutely prohibited, and that the apparent absence of tuberculous processes in the mammæ of a cow is no assurance of non-infectious milk. (3) That tuberculosis is raging among the dairies of Chicago and vicinity, and the people of Chicago are actually being infected with tuberculosis through its milk-supply. (4) That proper veterinary inspection of dairies will eventually result in purifying the supply, and such inspection should be conducted under the direction of the Commissioner of Health of Chicago, who in turn should collaborate with the State officers in their efforts to exterminate the disease from domestic animals. Dr. A. S. Alexander said that in order to insure absolutely wholesome, pure, innocuous milk we must have, first, a perfectly healthy, clean cow. Second, she must be fed on perfect, sound, sweet, nutritious food. Third, she must drink uncontaminated water. Fourth, she must be surrounded by a perfect sanitary environment and housed in a fine stable. Fifth, the milk so produced must be protected against secondary infection. Tuberculosis may be eradicated from any stable by the proper use of tuberculin. Dr. William A. Evans discussed the mortality of tuberculosis and gave the annual mortality statistics from this disease in the large cities of the world. The following officers were elected: Honorary president, Dr. N. S. Davis, Sr.; president, Mr. John MacLaren; first vice-president, Dr. William A. Evans; second vice-president, Dr. Edwin Klebs; third vice-president, Dr. A. H. Baker; secretary, Dr. John A. Robison; treasurer, Mr. Elbridge G. Keith

The efforts of the Society with regard to legislative action will be: To urge the State Legislature to appropriate a fund adequate to the needs of the State Board of Live Stock Commissioners, this sum to be probably $50,000 for the first year, $30,000 the second, and $20,000 the third. To insist that the Legislature increase the executive force of the Live Stock Commission sufficiently to enable the Commission properly to fulfil its duties. To urge that the Commission be empowered to administer the tuberculin-test to all cattle in the State without the consent, or if necessary, against the wishes of owners of cattle. To make it necessary that the Commission begin a systematic examination of all cattle in the State, and all cattle not proving under the tuberculin-test to be free from tuberculosis shall be condemned, and the owners compensated by the State at the scale of prices fixed by the Live Stock Commissioners. To devise and recommend an efficacious plan for the prevention of the sale of tuberculous milk in Chicago; this plan modeled for the most part after the method adopted by Buffalo; to recommend that the Common Council enact an ordinance creating a force of experts in veterinary medicine, whose duty it shall be regularly to inspect the dairies supplying milk to the Chicago market, whether or not such dairies be within the city limits; and the plan further to provide that no can of milk shall enter the milk depots of Chicago without a number corresponding with a number on the sanitary report of the dairy from which the milk was shipped.

The State Board of Health, at its meeting held in this city recently, adopted resolutions calling on the Legislature to vest the Board of Live Stock Commissioners with authority to conduct sweeping investigations looking to the eradication of tuberculosis in cattle and to grant a special appropriation for the work. The Board voted that Illinois municipalities ought to pass ordinances prohibiting the sale of milk from untested herds. The Board revoked the practising licenses of H. E. Colby and William F. Hughes

In the slaughtering of condemned cattle by the Live Stock Commissioners on June 18th out of 91 cattle slaughtered, 89 were found to be infected with tuberculosis, and 57 were so badly affected that the carcasses were condemned.

At the annual meeting of the Chicago Medical Society, held June 21, 1899, the president, Dr. Arthur D. Bevan, delivered an address on "The Science of Medicine and Its Relations to the Public." He said there is a science of medicine just as truly as there is a science of chemistry or of astronomy or anatomy. Just as chemistry is dependent on physics and mathematics, so medicine is dependent on chemistry, physiology, pathology, and anatomy. Medicine does not hesitate to borrow from any branch of knowledge that may aid in its development, and it follows that as these aiding sciences develop, medicine will advance. Medicine must let the world know that it begins the twentieth century as a pure science, and that it has left behind it the mystery, the superstition, the dogmas of the past. The teaching of medicine must be in the hands of scientists. Students of medicine must be taught its truths and limitations. The public, with its ever growing ability to grasp knowledge, must be taught its truths and frankly told of its limitations. He then discussed the great duty which the science of medicine owes to the public under four heads: First, by developing and teaching the science and practice of medicine along purely scientific lines. Second, by demanding a high standard of knowledge and efficiency of men desiring to practise medicine. Third, by educating the public in the great truths of medical science. Fourth, by obtaining national, State, and municipal recognition of the great medical truths which can be incorporated into laws for the good of the community. Of twenty medical colleges in Chicago, he said possibly there were three sufficiently well conducted to warrant their recognition as scientific schools; the others have no right to such a claim. They represent either some paltry or a pathologic desire of a group of men for the title of professor and the opportunity to advance and advertise themselves. This results in the turning out of poorly equipped medical men and the lowering of physicians generally in the eyes of the public. Modern medicine demands a scientific train-

ing. The modern medical school must drill its students in the sciences of anatomy, physiology, pathology, chemistry, and pharmacology in well equipped laboratories. These laboratories must be not only teaching mediums, but workshops for the discovery of new truths. After this preliminary work the student will study medicine, surgery, obstetrics, and the specialties in well-equipped hospitals and dispensaries. He would like to see a national law to control medical practice, although it seems an insurmountable task to obtain it.

When we see the good accomplished by vaccination, by quarantine against yellow fever and cholera, by antitoxin in diphtheria, the lessening of typhoid by pure water-supply, the elimination of trichinosis by inspection of hog products, as done in Germany, and now the great awakening in regard to the prevention of tuberculosis, one must be impressed with the tremendous possibilities of preventive medicine. The realization of these possibilities depends upon the education of the people as to the dangers of disease, the cause of disease, and the practical method of prevention.

The following officers were elected: President, Dr. Junius C. Hoag; vice-presidents, Drs. Henry B. Favill and Hugh T. Patrick; secretary, Dr. Arthur R. Edwards; treasurer, Dr. S. C. Plummer.

OUR PHILADELPHIA LETTER

[From Our Special Correspondent.]

ANOTHER LEGAL SET-BACK FOR THE ANTIVACCINATIONISTS — THE "KISSING-BUG" EPIDEMIC — THE SALE OF "EMBALMED" MILK — DIPHTHERIA AND THE FACTORY INSPECTORS — TUBERCULOSIS IN CATTLE — MEDICAL SOCIETY OF NEW JERSEY — SMALLPOX IN PENNSYLVANIA.

PHILADELPHIA, July 3, 1899.

STILL again has the antivaccinationist resorted to the courts to contest the constitutionality of the compulsory vaccination law, as applied to public-school pupils, and again has the opinion of the law defeated his intentions. The petition of a Mr. Charles J. Field of this city, aimed against the vaccination law as it now exists here, has been defeated, and the outcome gives satisfaction to every citizen of intelligence, lay and professional. The complainant filed a petition requiring reason to be shown why his daughter should not be admitted to a public school by its principal, who had refused to admit her because she failed to produce the proper certificate from a physician showing that she had either been successfully vaccinated or that she had at one time suffered from smallpox. In answer to the petition the City Solicitor filed an answer upholding the principal of the school, stating that the defendant was compelled to comply with the law passed in 1895 relating to this question, and further, that the principal had to comply with a similar rule of the Board of Education. Thus another attempt to overthrow the compulsory vaccination law has been defeated in its incipiency, as has been the fate of all such attempts against this established prophylactic measure. But the incident proves that primitive mental receptivity still prevails in some quarters, and that lovers of right and of enlightenment must be on their guard to abort these attacks upon common sense, proven safeguards of the community's health.

That annoying insect popularly known as the "kissing-bug," which has been epidemic recently in Washington and Brooklyn, has visited Philadelphia, in the course of its peregrinations northward, its presence here having become very evident by reason of the dozens of persons who have suffered from its bite during the past three or four days. The bites of this insect, which usually occur on the lips of the individual attacked—hence the name, "kissing-bug"—are quickly followed by extensive swelling of the part, which becomes red and inflamed, and exceedingly sensitive. Signs of active cellulitis are often present, and the lips swell to two or three times their normal size, so that articulation and eating may be impossible. The process subsides rapidly after forty-eight to seventy-two-hours' duration. The exact identity of the insect concerned in this epidemic is somewhat in doubt, but it is thought to be one of the varieties of the so called "assassin bugs," probably the opiscoetus personatus, which is a common parasite of the ordinary bedbug and house-fly. It is an insect nearly an inch in length, of dark, brownish-red color, and having six legs and long antennæ. During the past week more than a dozen persons have applied for hospital treatment on account of its bites, and according to current reports the list of its victims continues to increase from day to day.

"Embalmed milk," as it has been termed by those of facetious turn of mind is just now giving the inspectors of the Board of Health all sorts of worry, and extensive searches and tests are being carried on, to detect the presence and to suppress the use of this deleterious preparation. "Embalmed milk" is nothing more nor less than milk to which formaldehyd has been added to prevent souring, and it is claimed that its use is fast becoming general, particularly in the poorer sections of the city, among dealers with whom cheapness, and not quality, is the prime object of trade. The very minute proportion of formaldehyd required to prevent fermentation of milk, and the difficulty with which it may be detected by the ordinary methods employed in milk-testing make its detection a rather elaborate chemical analysis, and decrease the chances of its being suppressed. Philadelphia has recently had quite an extensive assortment of other food adulterations, in addition to this form, the authorities having brought to notice a number of other instances relating to the adulteration of coffee, vinegar, and cider. What with fever-germed Schuylkill water and formaldehyded milk and salicylated beer, the poor inhabitant must needs altogether abandon liquid indulgences unless his immunity happens to be absolute.

The discovery this week of diphtheria in a "sweat-shop," by one of the State factory inspectors, is a rather disturbing incident which calls for increased vigilance and thoroughness in the inspection of premises where clothing and other articles of general sale are manufactured. Thanks to a new law, the authorities were able to take prompt and radical measures in the present instance, by seizing and confiscating all the clothing found in the

place. By the present plan of cooperation between the factory inspectors and the health-office of this city, it is believed that the dangers of the spread of infectious diseases from such foci will be at once minimized.

Dr. Leonard Pearson, the State Veterinarian, has stated in his annual report, just rendered to the State Live Stock Sanitary Board, that during the past year one thousand cattle in this State were condemned as tuberculous and killed, their value being appraised at over twenty-five thousand dollars. Dr. Pearson also reports an outbreak of anthrax in Jefferson County, and several cases of rabies in different parts of the State. The excellent work of Dr. Pearson will be carried on this year unhampered by deficient appropriations, as it has been arranged that a sum of $40,000 shall be set aside for the expenses of the board during the fiscal year.

The 133d annual meeting of the Medical Society of New Jersey was held at Allenhurst, June 27th, 28th and 29th, the president of the society, Dr. Fisher, presiding. More than 150 delegates from the different county societies were present, and the meeting was very successful, both as to the scientific matter discussed and the business transacted. The society elected officers for the ensuing year as follows: President, Dr. L. M. Halsey; vice-presidents, Drs. Wm. Pierson, John D. McGill, and E. L. B. Godfrey; secretary, Dr. E. W. Hedges; corresponding secretary, Dr. Wm. J. Chandler, and treasurer, Dr. Archibald Mercer. The next meeting will be held at Atlantic City in June, 1900.

That smallpox prevails to a wide extent in Pennsylvania is shown by the last report of Dr. Benjamin Lee, secretary of the State Board of Health. This report, dated June 27th, states that no less than 146 cases of this disease have been reported since June 3d. Of this number forty cases occurred in Philadelphia. The majority occurred in the western counties.

OUR LONDON LETTER.

[From Our Special Correspondent.]

NO DECISION YET IN THE HUNTER CASE—THE ENGLISH CANCER SOCIETY AND ITS VIEWS ON PREVENTION—THE HARLEIN GOLD MEDAL TO LORD LISTER—HAFFKINE'S ADDRESS ON INOCULATION IN THE PLAGUE—LAWSON TAIT—SANITARY CONDITION OF LONDON—THE PROGRESSIVE LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

London, June 24, 1899.

The General Medical Council has not yet reported its decision in the Hunter case, to which I have already referred, though that redoubtable warrior Victor Horsley is pushing the battle to the very gates. Its committee, of which Dr. Glover is chairman, reported in favor of the organization of a Conciliatory Board, which should mediate between the profession and the friendly societies and clubs in the serious clashes which are continually occurring. The council mildly approved of the theory of the report, but immediately thereafter emphatically refused to take any share in the formation of such a body, so "conciliation" seems as far away as ever. The council seems to continue in the same conservative frame of mind noted last week, as it flatly vetoed a proposition to increase the direct representation of the profession at large at its board by so much as a single member.

There is abundance of sporting enthusiasm in the English profession, and a fine healthy spirit it is. The "medical" dog-show, arranged by the Women's Medical School, proved a great success, attracting entries of nearly 250 dogs owned by members of the profession, and netting a handsome sum for the laboratory fund of the school. Week before last one of the leading golf clubs was the scene of a "medical tournament" which attracted much attention and many entries. And as every one whose early education has not been neglected knows, the champion cricketer of England, the uncrowned king of the athletic world, Dr. W. G. Grace, is one of us, not merely in name, but in fact. He has a large practice to which he devotes himself in the winter, turning it over to a partner for the summer, when the cricket season begins. And so far from injuring his practice, his fame as a batsman is said to be a decided advantage to him professionally, and his patients are immensely proud of his prowess. Oddly enough, by the way, the honors in the golf tournament were won by a "Dr. Jekyll," though whether "Mr. Hyde" appeared in the competition is not stated.

And after consumption, cancer. The English Cancer Society has just held its inaugural meeting, at which the usual melodramatic statistics showing an enormous increase were quoted and all true Britons urged to rally for its prevention. As even the pathologists among us are still completely in the dark as to the cause of cancer, just what form measures of prevention are to take, is distinctly hazy, but the society rises superior to such halting considerations. It demands elementary instruction in the schools in the laws of the prevention of cancer, and a Parliamentary Inquiry! This is the way to talk! Just let the disease understand that you're not going to stand any more nonsense, but are about to proceed to prohibit it by law, and threaten it with Parliamentary Inquiry, and like Davy Crockett's coon, it will "come down" at once. Prevention without knowing the cause is delicious! It reminds one how the "Hunters of the Snark," according to Lewis Carroll, "threatened its life with a railroad share."

At the anniversary dinner of the Royal Institute of Public Health the Harlein gold medal was presented to Lord Lister, in recognition of his invaluable services not merely to surgery, but to State medicine and sanitary science. We regret to learn that Lord Lister is at present somewhat severely indisposed, but it is hoped the attack will prove of but short duration. No honors can be too great or too many for him while he is still with us.

Professor Haffkine's address on "Inoculation in the Plague," before the Royal Society week before last was both interesting in itself and a high tribute to the importance and value of medicine in the eyes of its sister sciences. Agreement was almost unanimous among the experts present after the address that Haffkine's result compelled belief in the value and promise of his method. As many as 80,000 patients were inoculated in one place

(Hubli) and the sick and death rates were enormously lowered among them as compared with the uninoculated. The method of attenuation is by cultivating the plague bacilli in the presence of weak solutions of carbolic acid or oil of mustard, only the toxins of the attenuated bacilli being used in inoculation.

The inoculation has proved remarkably safe and innocuous, although its sensory effects were described by an immunized gentleman present at the session as "like fifteen vaccinations at once," and the natives are beginning to feel confidence in it, a most important tribute from the novelty-hating and cowardly Asiatic.

In this connection it will be of some little personal interest to American surgeons to learn that the antiseptic, flour of mustard, used with such excellent results by many of them in their operation-preparations, on the recommendation of Roswell Park, has been found by Haffkine one of the most efficient germicides against even the virulent plague-bacilli.

Bacteriology has just scored another triumph in the service of man; this time not by directly preventing or curing his diseases, but by what really amounts to the same thing—protecting his food-supply. Dr. Edington, Bacteriologist to Cape Colony, South Africa, whose interesting results in Texas fever were noted in a recent letter, announces the discovery of a parasitic fungus highly fatal to locusts and with which he has succeeded in almost clearing several farms and gardens of these pests.

As you already know, Lawson Tait died suddenly at his home, on the Welsh coast, on June 13th in the fifty-fifth year of his age. No recital of his triumphs and his services to surgery is needed, for his name has been a household word in the entire English-speaking medical world for twenty years past. In spite of many eccentricities and even "defects of his virtues," Lawson Tait was a genius, a reformer of the fighting type, and sincerely devoted to the interests of the profession—as he understood them. His work in abdominal surgery will remain a permanent monument to his memory of which any man might be proud. The surprising thing is that he could have written his name so high at such an early age and in spite of what the French aptly term his "difficult" temperament. An Ishmaelite of the Ishmaelites, he fought and flouted both antisepsis and vivisection, and yet his superb results by purely aseptic methods did much to turn the current of professional thought in the direction of this higher step. His curt reply to the German surgeon before the days of antisepsis who visited him, and asked the secret of his success, "I keep my finger-nails clean, sir!" accompanied as it was by a glance at the "mourning"-tipped fingers of his visitor, will live as the aseptic theory in a nut-shell.

The Anglo-American *entente cordiale* continues to flourish. Last week's *British Medical Journal* devoted an editorial to a notice and cordial commendation of the report of our Minnesota State Board of Health, and expressed its regret that the multiplicity of health authorities in London prevents its sanitary system from even approaching the scientific uniformity and efficiency of the Minnesota plan.

The sanitary situation in London is really becoming a serious one. From time immemorial the world-capital has been divided, upon the most irrational of principles, into "parishes" based upon the area of influence of the great churches, each ruled by its "vestry," whose intelligence and progressiveness may be imagined, each of which was absolutely independent and practically responsible to no higher power. Some thirty years ago these bodies made a sort of working-compromise, of the makeshift order, by appointing a Metropolitan Board of Works in whose care the streets, parks, and a few other universal interests were placed. About ten years ago this was further improved upon by the new London County Council, which has done yeoman service for sanitary reform, but now Mr. Balfour's precious new London Local Government Bill proposes to relegate sanitary matters again to a lot of newly created "boroughs," so that the County Council has formally refused to take even badly needed sanitary steps, such as the appointment of additional meat-inspectors, etc., on the ground that it does not feel justified in making any large expenditures on schemes which will be entirely upset in less than two years when the new boroughs come into power.

Major Donald Ross began his lectures on the "Extirpation of Malaria" at the Liverpool School of Tropical Medicine last week, and an investigation expedition is to start from this progressive little school no later than August for Sierra Leone on the west coast of Africa. Score another point for the superiority of private over government enterprise! Indeed the word seems a mockery in its last connection. The London Government School still "expects" to be open in October, although half the staff of its hospital has resigned on account of discourteous and dishonorable treatment.

The Commission of Experts appointed by the government has completely disposed of the silly charges against the milk from the Aldershot sewage farm which, as we intimated in a former letter, rose solely out of the jealousy of competing local dairymen.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

COLOTOMY FOR MEMBRANOUS COLITIS—TREATMENT OF ABSCESS IN THE ANTRUM—HEMORRHAGIC ERYTHEMA IN A CASE OF BRIGHT'S DISEASE—REMOVAL OF SUBCLAVIAN ANEURISM—TREATMENT OF GONORRHEAL SALPINGITIS — DECLINE OF TYPHOID FEVER IN THE NETHERLANDS.

AT the Clinical Society of London, May 12th, WHITE and GOLDING BIRD contributed a paper on right colotomy for chronic colitis, the object of the operation being to give the colon perfect rest. Three cases were mentioned, the first that of a lady, aged thirty-six years, who had had membranous colitis for twenty years. She was wasted, a complete invalid, and almost unable to take food, or any exercise. Right lumbar colotomy was performed in two stages, with a six-day interval, and the fistula allowed to remain open for a year. Six months after its closure the patient was perfectly well, eating ordinary food, and taking out-of-door exercise. Two other

more recent cases were reported, in which right lumbar colotomy was performed with excellent result. The fistulæ were still open. Right-sided colotomy was therefore recommended for: (1) intractable membranous colitis; (2) all forms of chronic ulceration of the colon that had resisted medical treatment, and which were obviously otherwise incurable. Most cases of very chronic dysentery were probably to be cured without colotomy. (3) Cases of idiopathic dilatation of the colon. The colotomy must be right-sided, and colotomy is preferable to cecotomy, for when the latter operation was done fluid feces escaped from the artificial anus, and this gave rise to much trouble; while, further, it was difficult to prevent some feces passing on into the colon. More experience is needed to determine the length of time which the bowel should be left open, but certainly six months should be the minimum.

THOMSON mentioned a case of empyema of the maxillary sinus which had existed for two and possibly for seven years, and which had been completely cured in eight weeks by drainage through a tooth-socket. A drill was used to open the sinus, and a drain was employed. The only other treatment was a daily washing with an alkaline antiseptic solution. This simple method of treatment, first employed by Cowper more than 200 years ago, has lately been described as futile in long-standing cases.

OVELL and EVE said that the simpler operation should be tried first; but that in a minority of the cases it was unsuccessful on account of the polypoid growths in the antrum. In such cases treatment consisted in freely opening the antrum through the canine fossa so that the cavity could be inspected and the growths removed; and in two instances a counter opening was made through the inner wall of the antrum at the level of the floor of the inferior meatus. The cavity was first packed with iodoform gauze, and afterward treated with antiseptic irrigation. All of the patients that had been so treated by them had been cured except one, and he had been greatly benefited. They also reported a case of malignant disease of the antrum, in which suppuration was the only symptom noted, and in which the presence of a tumor in the antrum was not suspected until the opening had been made through the bone. Subsequently the superior maxilla was successfully removed.

May 26th, FOX related an instance of hemorrhagic erythema in a case of Bright's disease. The patient, a woman, aged sixty-one years, suffered from an acute trouble supervening upon a long-standing affection of the kidneys. The hemorrhagic symptoms referred to were: injected and swollen fauces, some erythematous maculæ on the face and a few petechiæ on the legs. Five days later a generalized eruption of a macular type made its appearance. The macules were slightly raised, with a tendency toward rapid centrifugal extension. Their size varied from that of a pin-point to a diameter of half an inch or more. They soon became confluent. The color was a vivid red, not affected by pressure. The older lesions had purple borders and bluish-red centers. The hands and feet of the patent were edematous, and the affection looked like a severe purpura. Later the lips were swollen and blood stained, and there were a few spots on the gums. The lesions became increasingly hemorrhagic and the patient died seven days after the general eruption began. The trachea, bronchi, stomach, and colon were intensely injected, and in the small intestine there were, besides, numerous hemorrhagic areas. The kidneys were small and granular. No micro-organisms were discovered. The eruption was thought to correspond clinically with the roseola of Willan, rather than with erythema multiforme. The speaker's experience with eruptions in nephritis led him to look upon them as heralds of approaching death. They were either of the type of Willan or morbilliform in character.

ALLINGHAM reported a case of aneurism of the right subclavian artery. The vessel was ligated in its first portion, and thirty-eight days afterward the aneurism was successfully removed. The patient recovered good use of the arm, although two-thirds of the clavicle had been taken away. It was interesting to observe that pulsation returned in the radial artery within twelve days of the time of ligature. Hence the importance of removal of the sac in these cases.

DUCKWORTH said that he was treating a similar case in which he had considered operation, but postponed it in order to try the effects of rest, restricted diet, and iodid of potash. The aneurism was consolidating and shrinking, so that it seemed still unnecessary to perform an operation.

SYMONDS mentioned a case in which he had attempted to ligate the first portion without removing the clavicle. On passing the needle under the vessel alarming hemorrhage was produced. When the needle was withdrawn the bleeding ceased. He therefore tied the innominate and common carotid simultaneously. So far the patient had done well.

At the British Gynecological Society, May 11th, TAYLOR read a paper on the treatment of gonorrheal salpingitis. A large number of women who are suffering from tubal disease have been at some time or another exposed to the infection of syphilis as well as of gonorrhea; and they undoubtedly show marked improvement after a prolonged course of mercury and iodids, and in the course of this treatment, unless acute pyosalpinx intervenes it is the rule for all gross physical signs of disease to slowly and permanently disappear. Acute pyosalpinx is peculiarly liable to occur on the left side of the body, probably as a result of secondary infection from the rectum. Such cases, whenever possible, should be treated by free incision of the posterior vaginal fornix, by thorough exploration and emptying of all pus-cavities from the pouch of Douglas, and by iodoform-gauze drainage. The older operation of removal of the appendages is not only much more dangerous, but is peculiarly liable to be followed by fecal fistula and operation-sequel sometimes worse than death itself. If the recovery is not complete, relapses following the operation should be followed by a course of specific treatment, the beneficial result of this being often immediately manifest when the wound tissues are unhealthy and the healing is delayed. Occlusion of the tubes and peritubal adhesions consequent on gonorrheal

salpingitis have no direct specific causation, and must be regarded rather as secondary mechanical results of the local peritonitis, which has been caused by salpingitis. Their absorption and disappearance will not therefore be secured by the cure of the gonorrhea, and sterility may persist, although gonorrhea may be entirely eradicated from the system. In gonorrhea of the pelvis there will probably remain a residuum of intractable cases, particularly cases of complication with other diseases, such as fibroids of the uterus. In these cases, vaginal hysterectomy, with or without removal of the appendages, is not only the most rational operation in theory, but is productive of the best final results.

At a meeting of the Epidemiological Society, held May 19th, SALTET read a paper on typhoid fever in the Netherlands. He showed that while the general death-rate per 100,000 from all diseases had declined by 14 per cent. since 1872, and that for tuberculous disease by 16 per cent., that for typhoid fever had declined by 63 per cent. The mortality in the towns from typhoid fell 72 per cent., while in the rural districts it had fallen only 60 per cent. The improvements in sanitation seemed to him insufficient to account for this great decline in the mortality in typhoid, while the decline in other diseases was far less. He suggested that the progress of medial science had far more to do with it than was generally admitted. This theory would explain the greater decrease in the urban centers, than in the rural districts, although the latter would naturally be freer from communication of infection, by the better medical facilities offered the inhabitants of the cities.

NOTTER remarked that the stationary character of the population of the Netherlands would favor their acquisition of a degree of immunity. In India the extreme susceptibility of recently arrived Europeans is notorious while with each year of service there is a rapid increase in their power of resistance.

SOCIETY PROCEEDINGS.

THE AMERICAN SURGICAL ASSOCIATION.

Abstract of the Proceedings of the Twentieth Annual Meeting, Held at Chicago, May 31, June 1 and 2, 1899.

THE Association met in the Hall of the Chicago Medical Society, and was called to order by DR. W. W. KEEN of Philadelphia. PROFESSOR DE LASKIE MILLER of Chicago delivered an Address of Welcome, which was responded to by the President. Dr. KEEN then delivered his address. He selected for his subject "The Technic of Laryngectomy."

He began by saying that he has been ill satisfied with the usual technic of laryngectomy, and, as in a recent case, he adopted a method which rendered the operation one of simplicity, caused but little loss of blood and little shock, and avoided the danger of aspiration pneumonia, he ventured to bring it before the Association in the hope that it will be tested by others so as to determine its real value. Instead of being a very severe and dangerous operation, as it has hitherto been regarded, he hoped this will place it in the category of safe operations.

Nearly all authors, whether surgeons or laryngologists, speak of the operation as an extremely severe and dangerous one, and this view is warranted by its past high mortality. The causes of the mortality are chiefly: (*a*) Weakness of the patient by reason of the disease, the poor aeration of the blood, and the entrance of septic discharges from the diseased larynx into the lung before the operation; (*b*) shock, including hemorrhage during the operation, and (*c*) after the operation, septic pneumonia, due to the aspiration of infected wound-fluids. This is the greatest danger of all. The sources of these wound-fluids are twofold: first, the tracheotomy wound, if, as is usual, tracheotomy has been done; and, secondly, the wound left by the removal of the larynx. These wound-fluids are usually infected from the food, the secretions of the mouth, and the packing by iodoform gauze which renders primary union impossible.

While the method which he was about to describe does not obviate the weakness or any other unfavorable influence from the general condition of the patient prior to operation, it minimizes the other causes of death, and especially the possibility of pneumonia.

He could not claim originality for any one of the steps, for they have all been employed, he believed, by others. Thus Bardenhauer closed the communication between the trachea and the pharynx, but he only kept it closed until the wound became covered with granulations, and complications were no longer to be feared, say fourteen days. The communication was then reopened for the insertion of an artificial larynx. After adopting this method he had had four recoveries, while by the former method he had had four deaths. Cohen united the stump of the trachea to the skin, one of the most important improvements in the technic, since it prevents in a large measure the access of wound-fluids to the lungs. Other surgeons also have used the Trendelenburg posture, etc. But as a systematically planned operation, combining many advantages, the present technic as a *tout ensemble* may be called original.

1. The general preparation of the patient is the same as for any other operation.

2 *Preliminary Disinfection.*—As in all cases about the mouth, nose, pharynx, and larynx a systematic attempt is made for two or three days beforehand to secure at least partial disinfection. While partial disinfection is not as good as complete, yet the results in treatment of fractures of the base of the skull, in the extirpation of rectal tumors, etc., shows its great value. The teeth are very carefully cleansed by the toothbrush. If there are any old stumps of teeth present it is better that they should be extracted, and the operation deferred a few days until these dental wounds heal. For two or three days before operation every two hours, when the patient is awake, the mouth and each nostril is sprayed separately with a solution of boric acid, listerin, or both.

3. *Tracheotomy.*—Nearly all authors recommend a tracheotomy, either as the first step of the operation or more frequently ten to fourteen days before operation.

In the few cases in which dyspnea is great the author would be disposed to do a tracheotomy, say two weeks before the laryngectomy; not, however, with a view of preventing the entrance of blood and wound-fluids into the lungs by the introduction of a tampon cannula, but for the purpose of improving the general condition of the patient.

4. *Posture.*—The entire operation, after the trachea is invaded, is performed with the patient in the Trendelenburg position. The speaker was persuaded that the majority of surgeons do not appreciate to its full the advantages which this posture possesses in all operations about the upper air passages. As he had pointed out in a previous paper, he employs it in epithelioma of the lip, in extirpation, or other operations on the upper and lower jaw, in removal of the tongue, in cleft palate, in operations on the tonsils and pharynx, and all similar operations. Blood will not run up hill any more than water, hence, if the surgeon employs this posture in laryngectomy he avoids one of the chief reasons for tracheotomy and the employment of a tampon cannula.

The disadvantages of tampon cannulæ are very great. Kocher, like himself, has lately dispensed with them entirely. The three most commonly used are those of Trendelenburg, Hahn, and Gerster. Of the three Gerster's is distinctly, in his opinion, the best. It can be more accurately adapted to larynges of varying sizes, and is much less likely to injure the parts either by undue pressure or by difficulty of introduction.

5. *Anesthesia.*—This is carried out at first through the mouth, and is continued until the larynx or trachea is invaded. A large tracheotomy cannula (12 millimeters in diameter) is then introduced and held in place by disinfected tapes tied around the neck. The inner tube of this cannula is removed and the metal tube of a Hahn cannula, which precisely fits it, introduced. A rubber tube connects this with the ordinary funnel for the administration of chloroform.

The essayist described the operation in detail, and then spoke at length regarding the after-treatment. The patient is kept in the Trendelenburg position by placing a chair under the foot of the bed. This posture prevents any wound-fluids from running down (or rather up) into the lung. This position is to be maintained for one day. On the second day the bed is lowered to the horizontal plane. On the third day the patient is allowed to sit up in bed on a bed-rest; on the fourth, to get out of bed and sit in a reclining chair, and on the fifth day he may walk about the room.

For two days nutritive enemata only are to be used. After that a teaspoonful of liquid food is given, at first every half hour, always followed by a tablespoonful of sterile water to wash away any food that might possibly leak into the laryngeal wound. At the end of a week full diet as to quantity may be given, but no solid food is to be given until the tenth day. No catheter or esophageal tube is required. On the day after the operation the small gauze drain is to be removed. Half of the stitches may be taken out on the fourth day, and the remainder on the sixth day.

The only objection to this method which occurred to the author is that it absolutely precludes the use of any artificial larynx. But the possession of voice is nothing when compared with a speedy recovery and a greatly diminished danger of a fatal result. Rutsch believes such a larynx is very unsatisfactory.

At the conclusion of the president's address a symposium on "The Surgery of the Spanish War" was taken up. The first paper was read by DR. NICHOLAS SENN of Chicago, and was entitled, "The First-aid Package in Military Surgery." He stated that two things were brought out clearly during the Græco-Turkish War, namely, the value of a first-aid antiseptic occlusive dressing in the prevention of wound infection, and the importance of immediate immobilization of compound gunshot fractures. He suggested the following first-aid package for field use and emergency work: Two pieces of lintin, a form of compressed cotton, four inches wide and sixteen inches long, sterilized and folded twice lengthwise; a teaspoonful of borosalicylic powder in a small waxed aseptic envelope; between them a piece of sterile gauze, forty-four inches square, with two safety pins, folded to corresponding size with the lintin compress; all of these articles wrapped in tin foil; two strips of rubber adhesive plaster an inch wide and eight inches long, the whole to be sewed in an impermeable canvas or linen cover. In using the package the powder is applied to the wound, the linten used as a compress being held in place by the strips of adhesive plaster, and the gauze bandage placed over it. If two wounds are to be dressed at the same time, as is usually the case in modern warfare, the contents of the package are equally divided and used, which can be done without materially impairing the efficiency of the dressing. The slight hemorrhage in wounds inflicted by the small-caliber bullet will soon saturate a part of the dressing, which by evaporation will soon convert the antiseptic powder and the cotton into a dry antiseptic crust, the very best protection for the wound against infection. Many military surgeons have expressed themselves recently as being opposed to the employment of the first-aid package by any one except medical men. This position the speaker thought will be found untenable during any great war, when the number of wounded would greatly exceed the working capacity of the limited number of surgeons. In summarizing the following conclusions were emphasized:

1. First-aid packages are indispensable on the battlefield in modern warfare.

2. The first-aid dressing must be sufficiently compact and light to be carried in the skirt of the uniform or on the inner surface of the cartridge or sword belt, so as to be of no inconvenience to the soldier or in conflict with military regulations.

3. The Esmarch triangular bandage is of great value in the school of instruction, but in the first-aid package it is inferior to the gauze bandage.

4. The first-aid dressing must be applied as soon as possible after the receipt of the injury, a part of the field service which can be safely entrusted to competent hospital-corps men.

5. The first-aid dressing, if employed behind the firing-line, should be applied without removal of the clothing over the injured part, and fastened to the surface of the skin with strips of rubber adhesive plaster, the bandage being applied over and not under the clothing.

6. The first-aid dressing must be dry, and should remain so by dispensing with an impermeable cover over it, so as not to interfere with free evaporation of the wound secretion.

7. The first-aid dressing should not be disturbed unnecessarily, but any defects should be corrected at the first dressing-station.

A paper, entitled "The Battle-ship in War," was read by DR. N. M. FEREBEE, Medical Inspector of the United States Navy, Norfolk, Va. He described a modern battle-ship, spoke of the preparations for, and the conditions during, war. He also narrated his experiences with modern rifle-bullets and with shells, and closed his paper by detailing interesting cases.

"The Organization and Equipment of Military Field Hospitals" was the title of a paper read by DR. GEORGE R. FOWLER of Brooklyn. Under the head of organization the essayist dealt with executive offices, dispensary, property office, post-office, quartermaster's office, commissary office, medical ward, surgical ward, operating-tent or pavilion, pathological and bacteriological departments, cooking department, diet-kitchens, sanitary and disinfection departments. In referring to location and arrangement, he spoke of the importance of selecting a suitable site, and then dwelt upon soil, drainage, arrangement of the wards, sinks, and emphasized the importance of cremating garbage and typhoid excreta.

In referring to equipment, he spoke of tentage, pavilions, furniture, linen, medical supplies, anesthetics, antiseptics, instruments, sterilizers, operating-tent furniture, ligature and suture materials, dressing materials, splint materials, and transportation facilities. Lastly, he dwelt at length upon the personnel, which comprises executive and administrative officers, professional staff, ward officers, operating-staff, ophthalmologist, aurist, and dentist.

DR. CHARLES B. NANCREDE of Ann Arbor, Mich., followed with a paper on "The Effects of Modern Small-arm Projectiles as Shown by the Wounded of the Fifth Corps." Reports show that about 1400 wounded were cared for at the hospital with which he was connected, for nearly all of the injured in this corps who survived for twenty-four hours sooner or later passed through their hands, so that flesh wounds, and those of a day to a week or more, were observed. Flesh wounds were always of a trivial nature, unless the ball became deformed by striking some extraneous object or when stripping its mantle, as it sometimes did. This immunity enjoyed by the flesh wounds caused by Mauser and Krag balls resulted, first, from the slight amount of contusion caused by the rapidly moving ball; second, the aseptic condition of the ball, and, third, the rarity of the carriage of fragments of clothing into the wound, as was not uncommonly done by the forty-three-caliber Remington, brass-mantled balls. If maintained aseptic, the majority of flesh wounds healed almost as if they had been incised wounds, not uncommonly cicatrizing under the primary field dressing made with the first-aid package.

Contusions, or slight wounds of the great vessels leading to so-called traumatic aneurisms, or aseptic or septic sloughing of the vessels many days after the receipt of the wound, were far from uncommon. Thus, he saw one wounded subclavian where the patient survived over three weeks, to finally succumb to hemorrhage during an attempt to ligate the vessel, which was torn for a long distance. He also knew of another dying on the table some weeks after being wounded during an attempt to secure the same vessel. He tied the common femoral for wounds and assisted a colleague in securing another, days after the receipt of the injury. He tied one radial for secondary hemorrhage, and ordered the tying of an ulnar for ball injury several days after their division, and was compelled to amputate an arm after failing to secure a bleeding brachial in an apparently aseptic wound two weeks after the man had been shot.

The greatest advance in military surgery on the battle-field in recent times is the first-aid packet, and the greatest boon conferred on the wounded soldier has been asepsis and antisepsis, because in the majority of instances rendering his injuries so painless and their complications so slight that even anesthetics no longer occupy the chief place as a blessing to the wounded, because comparatively rarely needed.

DR. M. H. RICHARDSON of Boston read a paper on "Appendicitis; Should Every Patient Be Operated upon as Soon as the Diagnosis of Appendicitis Is Made? Should the Appendix Be Removed in Every Case?" At the bedside, in a specific case of appendicitis, there would be doubtless little difference of opinion among even those surgeons who seem to differ materially in the expression of their views. What one may describe as a severe case another may regard as a mild one; what one may consider a hopeless infection, another only a desperate one, and so on. The conclusions arrived at are the result of experience in 904 cases, personally observed and treated, and of personal observation of many others in the practice of hospital colleagues. In 259 cases of operation in acute cases 72 patients died. Four of these deaths were in the hands of other surgeons. In 189 acute cases operation was not performed: of these, 31 patients died.

Many of these fatal cases were desperate ones. All were severe. The mortality in acute cases without operation was fully 31 in 189 cases. In practically all of these fatal cases the patient was moribund and the case hopeless when first seen.

The most important question is not whether to operate in appendicitis, but rather when to operate. In view of the great mortality after operation in severe cases; of the disadvantages following the drainage necessary in septic cases, weakness of muscles, stretching of scars, hernias, and the like, the best time to operate is during the period of perfect health following the attack. In a large percentage of acute cases recovery from the acute attack will take place, and operation can be safely performed through a small incision which will not weaken the abdominal

wall. After the initial stage the question of intervention becomes more difficult when observed for the first time on the second, third, or fourth days. In severe cases the patient should be operated upon at once, unless he is improving so rapidly that there is a strong expectation of complete recovery. Intervention is still more strongly indicated if the symptoms are increasing in severity. Operation is indicated, too if the symptoms after marked improvement recur. In the consideration of symptoms after the early hours, the character and extent of pain, tenderness and rigidity are important as determining the width and depth of the area of infection. The constitutional signs are less reliable than the local; they may be deceptive guides.

The chief objection to operating in every case is the danger of converting a localized into a general infection. If the patient is improving, with a successfully localized peritonitis of considerable extent, especially if centrally localized, as in the pelvis, operation should be postponed until intervention can be safely practised, because these cases, in the absence of general peritonitis, are the most dangerous ones. An attempt should always be made to remove the appendix whenever the peritoneal cavity is opened unless the patient's condition forbids prolonged search. In many cases of abscess with firm walls a slough will be found which on examination will prove to be a necrosed or exfoliated appendix. In such cases no subsequent operation for removal of the appendix will be necessary. If, after recovery from simple drainage in acute appendicitis, there is evidence of renewed appendicular trouble, the appendix should be removed, the scar of the original wound incised, and the wound carefully closed. The operation is especially desirable if there is hernia in the scar or even stretching or discomfort. Hernia of itself after all operations for acute appendicitis should be operated upon if it causes discomfort or disability. In very rare instances there may be a recurrence of infection in the region of the ileocecal valve, even after removal of the appendix.

The discussion on Dr. Richardson's paper was opened by DR. JOHN B. DEAVER of Philadelphia who said that the paper had brought out many points on appendicitis about which an active warfare had been waged for some years. Upon the surgeon's individual decision at the bedside often depends the life of the patient, and in every case the very points about which the paper dealt have to be faced and a decision made. As to the question: Should every patient be operated upon as soon as the diagnosis is made? his answer was yes, with two exceptions: first, in cases of acute active general peritonitis; second, in collapse. Should the appendix be removed in every case of appendicitis? Yes, with the exception of those cases in which the bowel forming a part of the abscess wall has undergone necrotic changes rendering the bowel friable and apt to rupture during the necessary manipulation.

Dr. Richardson had most wisely divided his first heading into two classes: those in which the diagnosis has been made in the early hours (and the speaker took it for granted that he meant within twenty-four hours), and those in which a diagnosis is made after this period of time had elapsed. In answer to the first question, Dr. Deaver asserted most emphatically that the early hours is the time *par excellence* for operation in this most serious of intra-abdominal affections, first, because practically all patients operated upon at this time get well, or at least give the lowest mortality, this mortality increasing with the interval between the onset of the attack and the time of operation. Thus, of 18 patients operated upon within the first twenty-four hours, only 1 died, a mortality of 5.5 per cent. In 30 acute cases, on the other hand, in which the patients were operated upon within forty-eight hours, 10 died, a mortality of 33 3 per cent. As far as his experience goes, a careful examination of the statistics of acute cases convinces him that the local pathological changes reach by progressive stages their severest limit within the first forty-eight hours, and after that period the changes are more in the nature of sequelæ following the primary stage of infection. Second, the percentage of individuals that have one attack and then remain perfectly well and free from other attacks is very small. Of 460 in his own experience 312 had more than one attack.

Should one operate when the diagnosis is made after the early hours, if the symptoms are severe? His experience has led him to the belief that symptoms are very unreliable and are not in proportion to, nor do they indicate the severity of, the pathological processes which are taking place in the belly. Many times he has opened the belly of a patient with a normal temperature, flat belly walls, and a quiet retentive stomach, in whom tenderness on deep pressure was the only sign of persistent trouble, and has found pus or a gangrenous and perforated appendix. The surgeon who waits in the case of appendicitis for the appearance of severe symptoms, or, worse yet, waits for an indication to operate until the symptoms increase in severity will have many unnecessary deaths to his credit.

Should the appendix be removed in the case of localized abscess with firm walls? Success, under these circumstances depends upon the skill and the technic of the surgeon. The appendix should be removed, the only occasion for difference of opinion being as to the time of its removal, *i.e.*, at the primary operation or at a subsequent operation. If the appendix can be removed at the primary operation without additional risk to the patient, it seemed to the speaker that this is the time of election. That it can be done without additional risk has been repeatedly demonstrated, and in his own practice he does it in nearly all cases, because in 257 primary removals his death-rate in the past has been 16 7 per cent., and in 13 secondary removals the death-rate was 30.7 per cent. The reasons for the removal under these conditions are that surgeons do not subject their patients to the danger of an attack of acute appendicitis occurring before the secondary operation. There is less likelihood of fistulæ, either fecal or simple. The patient is cured with one operation instead of two, with the consequent saving of a variable period of invalidism. The appendix can hold but one of a few positions. It must be either post-cecal, pointing into the pelvis toward the spleen, or confined in the ileocolic, or subcecal, or ileocecal fossa. If it is embedded in exudate,

the exudate itself will indicate its position. He agreed with the essayist as to the necessity of the ultimate removal of the appendix, differing from him only as to the length of time before the complete operation is performed.

DR. CHRISTIAN FENGER of Chicago endorsed in the main nearly everything that Dr. Richardson had said. He, however, disagreed almost entirely with the views expressed by Dr. Deaver.

DR. FRANCIS B. HARRINGTON of Boston thought there was very little difference of opinion between Dr. Richardson and Dr. Deaver. He said that Dr. Deaver did not operate in every case; he considers the condition of the patient. If the patient is in collapse, he waits, and so do all surgeons. It is better to wait not only in cases of collapse, but in other instances. He likes to remove the appendix in every case in which it is possible to do so. On the other hand, there are certain conditions in which he is inclined to wait perhaps twelve or twenty-four hours, or even longer, before operating.

DR. JOSEPH RANSOHOFF of Cincinnati thought the doctrine advocated by Dr. Deaver would do a great deal of harm if followed by most men who operate upon patients with appendicitis. An important point to remember is that five-sixths of the operations for appendicitis are performed by general practitioners, men who have had very little experience in handling the intestines, in dealing with abscesses within the cavity of the abdomen, etc.

DR. NICHOLAS SENN of Chicago said that uniformity of practice in the treatment of appendicitis would probably never prevail. Each man formulates his own indications and follows his own rule of practice. Personally he felt weakest in making an early diagnosis in the first attack.

"Nephrectomy *versus* Nephrotomy" was the title of a paper by DR. JOSEPH RANSOHOFF of Cincinnati, Ohio. He said that renal surgery is essentially the product of the past twenty years. The occasional operations on the kidney performed before that time paved the way for a clearer appreciation of the conditions demanding operative relief. Improvements in the method of examination, and the consequently greater accuracy in diagnosis, the recognition of the early gross changes wrought by disease, as seen by operation rather than by autopsy, and the comparative safety of incisions through healthy kidney tissue have brought to the fore the element of safe conservatism in the domain of renal surgery. Several interesting and instructive cases of pyonephrosis were reported. Nephrotomy, *per se*, is doubtless an operation nearly devoid of danger. When performed on a healthy kidney, as for stone, the mortality is less than 5 per cent. When performed for suppurative diseases, the mortality rises. He had tabulated records of 78 nephrotomies for pyonephrosis exclusive of tuberculosis published within the last three years from various clinics. Of these 78 nephrotomies, 17 were followed by death, a mortality of 21.8 per cent. In the hands of some surgeons the mortality has been very large. Four out of 5 cases were fatal in the Vienna clinic. Out of 6 cases of nephrotomy at the Roosevelt Hospital 3 patients died. On the other hand, Israel lost only 1 patient out of 8, and Thornton 1 out of 12. From the same sources he had tabulated 37 primary nephrectomies with 9 deaths, giving a mortality of 24.3 per cent., and 17 secondary nephrectomies, with 7 recoveries and 10 deaths, a mortality of 58.8 per cent. The advantages of nephrotomy for pyonephrosis are obvious: First, it is an operation readily tolerated even in patients greatly reduced by fever. Second, it permits the surgeon to determine the condition of the opposite kidney Third, by it the saving of even a small amount of functionating kidney tissue may throw the balance in favor of recovery. In dealing surgically with a pyonephrotic kidney, statistics can guide the operator only in a general way in the choice between nephrectomy and nephrotomy. Nephrotomy is indicated in pyonephrosis, first, when the condition of the opposite kidney cannot be ascertained; second, when the reduced condition of the patient will not permit the major operation if this is indicated The nephrotomy is then but the preliminary step, to be followed by nephrectomy as speedily as possible. Third, when the operation reveals the presence of considerable kidney tissue, and an approach to the normal on the part of the pelvis and proximal portion of the ureter. Here a ureteroplasty may avert the need of nephrectomy. Fourth, when there is evidence or suspicion of disease in the other kidney.

Primary nephrectomy is indicated, first, when there is a sound second kidney. Second, when inspection of the exposed kidney shows many or large pouches that cannot be successfully drained. Third, when there is a little kidney tissue left. Fourth, when an examination of the pelvis and proximal portion of the ureter makes it reasonably certain that a return to the normal cannot take place. Fifth, in para- and perinephric suppurations where the kidney acts as a valve, impeding successful drainage. (Israel.)

DR. FRANCIS B. HARRINGTON of Boston then read a paper, entitled "Hernia Following Operations for Appendicitis." He had made a personal examination of the condition of the abdominal wall in 236 cases of appendicitis in which operation had been performed at the Massachusetts General Hospital by various surgeons. The subjects represented all varieties of the disease. The period which had elapsed since operation varied from nine months to nine years. No case was included in which operation had been performed since July, 1897. Total number examined, 236; males, 190; females, 46; 27 true hernias in all—11½ per cent.; 21 true hernias in males—11 per cent.; 6 true hernias in females—13⅓ per cent. Eighty-five wounds closed at the time of operation, 3 hernias, 3½ per cent.; 85 wounds partly closed at the time of operation, 11 hernias, 12½ per cent.; 63 wounds left entirely open at the time of operation, 13 hernias, 20 per cent. If with these cases of true hernia are included 10 cases of punctiform hernia and 53 cases of more or less bulging in the scar which did not constitute true hernia, the following percentage of weak scars is noted: in 85 closed wounds, 6 per cent.; in 88 partly closed wounds, 51 per cent., and in 63 open wounds, 62 per cent.

An opening between muscles or tendons or both could be detected in the scars: In 85 closed at the time of operation, 26 per cent.; in 88 partly closed at the time of operation, 83 per cent.; and in 63 open wounds, 87 per cent. There was general abdominal bulging in 85 closed incisions, or 7 per cent.; in 88 partly closed incisions, 45 per cent., and in 63 open incisions, 46 per cent. During the period in which these patients were operated upon, that is, from 1888 to 1897, some of the muscles or tendons were cut at right angles to their fibers in the acute cases, and often in the cases in which the wound was tightly closed at the time of operation. The writer advocated the use of an enlarged McBurney incision in all acute cases, which obviates the cutting transversely of any muscle or aponeurosis.

DR. ALBERT VANDER VEER of Albany, N. Y., followed with a paper on "Some Unusual Cases of Appendicitis with Complications." Operative surgery, in its relation to the appendix, will ever present rare and unusual cases. This was brought out strongly last year when the president of the Association and others detailed the histories of some very unusual lesions of the abdomen. Surgeons may examine their patients with ever so much skill, employing diagnostic intelligence to the best advantage, yet when they enter the peritoneal cavity they must be prepared for surprises. From the knowledge acquired from these isolated and rather rare cases it is more possible to increase the percentage of recoveries. A hernial sac with the appendix therein is not particularly rare, but to find it with a foreign substance like a pin, immediately in the appendix, and not having caused trouble, is somewhat unusual. To operate for the relief of femoral hernia and find not only the appendix, but a prolapsed bladder in the female, is certainly decidedly rare. The essayist then detailed eight somewhat unusual and complicated cases.

DR. DUDLEY P. ALLEN of Cleveland, Ohio, presented a paper, entitled "Cases of Fracture of the Skull Followed by Recovery." He reported ten cases of fracture of the skull, all but one of them involving the base. The first five reported were fractures at the base of the skull without any injury to the vault. Of these, three of the individuals were rendered totally unconscious at the time of the accident, one was in a semiconscious condition, and the third, so far as could be ascertained, retained consciousness. Bleeding from both ears occurred in two of these cases, whereas in three of the cases there was bleeding at only one ear. Deafness in one case occurred in both ears at the time of injury. Whether in the other cases deafness occurred at the time of injury could not be definitely determined. In two of these cases, however, deafness was complete and permanent in one ear, and in one case the hearing was much impaired in one ear. Loss of smell was complete in one case and greatly impaired in one case. Paralysis of one side of the face occurred in two cases, in one of which it remained permanent. These five patients with fracture confined to the base of the skull are alive and well at the present time, except for the disabilities just described.

There were two cases of children who fell from heights upon the vault of the skull, causing most extensive fracture and great deformity of the cranium. In one of these cases there was a great deal of hemorrhage from the ears. In both the scalp was lifted, the cranium was laid bare, and by means of a hook the fragments were raised to their normal positions. Both patients recovered. One, however, has impaired hearing in one ear.

Two patients received injuries in the frontal region extending into the base. In one of these there was extensive injury to the frontal bone and a large amount of bone and considerable lacerated brain tissue was removed. There was a fracture in this case extending across above the frontal eminence to the temporal fossa, upon the opposite side of the skull to that which received the greatest injury, and there was a fissure from the base of the skull extending from the frontal bone backward to the sella turcica. This patient had a large cerebral hernia. In the other case the injury to the frontal region and the involvement of bone was small.

The point of interest in the latter case was the temperature, which rose gradually at two different periods to 105° F., the case presenting many of the symptoms of typhoid fever with relapse. The other characteristic symptoms of typhoid fever were, however, entirely lacking, and the presence of optic neuritis, indicating probably a basal meningitis, placed the diagnosis of the cause of fever in considerable doubt.

The tenth case was one of severe injury in the region of the right parietal bone, followed in some weeks by impairment of mental activity, and also of motion of the right arm and leg. This was found to be due to a large subdural collection of blood on the left side, notwithstanding there was no evidence of injury on that side. The accumulated blood amounted to several ounces. It was removed and the patient is now well.

The following officers were elected for the ensuing year: President, Robert F. Weir of New York City; first vice-president, Charles B. Nancrede of Ann Arbor, Michigan; second vice-president, Edmund Souchon of New Orleans, La.; secretary, Herbert L. Burrell of Boston; treasurer, George R. Fowler of Brooklyn, N. Y.; recorder, De Forest Willard of Philadelphia; member of the council, W. W. Keen of Philadelphia. Place of meeting, Washington, D. C., in conjunction with the Congress of Physicians and Surgeons; time, May 1, 2, and 3, 1900.

NOTABLE BOOKS.

DAS BECKEN (THE PELVIS), VON W. WALDEYER.[1]

THIS work on the pelvis by one of the greatest living teachers and investigators of anatomy cannot fail to attract wide attention. The subject is an important one. A complete and accurate knowledge of the anatomy of

[1] Das Becken. Topographisch-anatomische mit besanderer berücksichtung der Chirurgie und Gynäkologie dargestellt von W. Waldeyer, M.D., Ph.D., Professor der Medicin und Director der Anatom. Institute, Berlin. Bonn: Fr. Cohen, 1899.

the pelvis is essential not alone to obstetrics and gynecology, the topics first naturally thought of in this connection, but to the surgery of the rectum, the bladder, and the various lesions, so common in this region, of the bony and soft tissues.

Though written by a professional anatomist, the book is far from being a dry digest of anatomical details; it gives in condensed and very practical form all the scientific medical knowledge we have up to the present time concerning not only the structures contained within the pelvis and their relations, but also its external coverings. This work is consequently a most useful one for the material it contains, and the method of its presentation is worthy of its contents. Original illustrations have been made from specimens furnished by such distinguished specialists as Testut of Lyons, Devy of Paris, Fritsch, Gusserow, Nagel, Nitze, Olshausen, Krause of Berlin, von Recklinghausen of Strasburgh, Gerota of Bucharest, and others. Altogether, the book is one of the most notable medical books of recent years.

Under the classification of pelves there is a very complete and suggestive discussion of the differences that have been noted, according to race, age, and sex, and the value of these peculiarities as regards ethnology and anthropology, as well as the more practical questions that sometimes come up for decision in medico-legal matters. In the discussion of the shape of the pelvis attention is called to the fact that it bears a definite, readily recognizable relation to the shapes of the heads of the races in which the different varieties occur. Sir William Turner's terms for their classification which are analogous to the corresponding cranial terms in anthropology are adopted. The Dolicho pellic, or long, oval pelvis, is found among the Australians, the Bushmen, the Hottentots, etc.; the mesati pellic, or almost circular pelvis, among the Africans and the Tasmanians, and in New Caledonia and Melanesia; the platy pellic, or broad, oval pelvis, is found among the Europeans, the Mongolians, and the Indians.

There is an excellent practical discussion of fractures and dislocations of the bones of the pelvis, and of tumors pertaining to this region both within and without the pelvis. Under fractures there is a report of a case that was found recently in the anatomical rooms of the University of Berlin in which the anterior bladder-wall had been forced into the space between the two fractured ends of bone as they sprung apart during the application of the fracturing force, and was retained there by the resilient pressure of the bony arches after the violence had ceased to act. It is a complication whose occurrence has been suggested on theoretical grounds, but this is, we believe, the first actual case reported.

Under the head of tumors external to the pelvis, comes the series of bursæ that may in following a special trade or occupation become chronically enlarged in the pelvic region, or that may, after chronic enlargement has existed for some time, become infected and suppurate. There is the organ-grinder's bursa, the bursa subcutanea trochanterica, situated just over the trochanter, and which becomes enlarged because of the irritation set up by the rubbing of the arm as it passes the hip in its frequent revolutions. There is the bursa subcutanea sacralis over the sacrum which enlarges in chimney-sweeps from the friction in ascending and descending chimneys. Then the bursa over the anterior superior iliac spines, which enlarges in weavers from the constant repeated impact of the "throw" of the loom. In English it is customary to call the enlargement of the bursæ over the tubera ischiadica weaver's bottom (sometimes irreverently referred to by the medical student as student's bottom). Professor Waldeyer, however, reserves for this bursary enlargement over (or under) the ischiac tubercles the name of turner's (drechsler in German, *i. e.*, wood-turner or carver) bottom.

With regard to the bladder and its relations to the ureter and kidney, some recent interesting work from various sources mutually confirmatory of certain newer views in this matter is given. The possibility of liquid being forced from the bladder into the ureter and thence to the pelvis of the kidney is admitted. Under pathological conditions, as with an over-distended bladder, this is not so difficult to understand. But even with a not over-distended bladder, when that viscus is somewhat hypertrophied, and its muscular fibers have been irritated into an easily excitable condition, liquid may thus be forced backward in the urinary tract. In healthy animals this has been demonstrated experimentally a number of times, and by various observers. The importance of this can scarcely be overestimated, especially since we have of late learned that it takes but a comparatively slight amount of pressure in the renal pelvis above the general blood-pressure at the moment, to force the renal filter, and send back into the circulation excrementitious products.

With regard to the possibility of absorption in the bladder itself, Waldeyer rather leans to the view becoming so general of late that it does take place to a limited degree. He points to the spread of neoplasms along the vesicular-lymph channels as a confirmation of this view.

He considers that though morphologically the posterior urethra and bladder are one, this portion of the urethra must not be thought part of the bladder in the urinary function. The internal sphincter of the bladder has been observed to be closed even under high pressure in the bladder of the living animal. Urine that finds its way into the posterior urethra is extruded completely by the micturition reflexes set up. There is an interesting discussion of injections into the bladder by forcing the muscles of the anterior urethra. Rectal and uterine and vaginal tissues and functions are discussed in the same practical scientific manner.

REVIEWS.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in All Branches of Medicine and Surgery, Drawn from Journals, Monographs, and Text-Books, of the Leading American and Foreign Authors and Investigators. Collected and Arranged un-

der the general editorial charge of George M. Gould, M.D. Illustrated. Philadelphia: W. B. Saunders, 1899.

Since the initial appearance of this Year-Book of Medicine and Surgery, in 1896, each succeeding volume has been received with even more favor than its predecessor. In these busy days it manifestly is impossible for the active practitioner to glean his knowledge of the rapid progress along special lines from the multitudinous publications issued for his benefit, and, therefore, it will be with a feeling of great satisfaction that he turns to this volume, in which he may find the facts boiled down and served with clear and concise editorial comments which add greatly to their value. In a weekly journal it is impossible to review in detail the many valuable features of a work of this magnitude; like all encyclopedias it must be studied by the individual in order that its many points of excellence may be brought out.

The data concerning typhoid fever and the Widal test is exceptionally complete. Regarding the latter the editors of the section sum up by saying: "Statistics show beyond question that the serum-test gives a positive result, sooner or later, in practically all cases of typhoid infection, and a negative result in cases in which typhoid infection is not present, and has not existed in the patient examined. . . Another fact that must be recognized is, that the Widal reaction often fails during the first week of the disease, and sometimes much longer. Repeated examinations are necessary in every case." Continued good results from the Brand method are reported. The Woodbridge treatment is condemned, and statistics presented to show that its claims to abort an attack are not deserving of consideration.

The advances made in the prophylaxis and treatment of pulmonary tuberculosis are reported in considerable detail. Work done in connection with the production of an antitoxin against yellow fever is reported, as well as improved methods in diagnosis and treatment.

The review of the diseases of the stomach and intestinal tract is especially satisfactory. Under the caption, "Anesthesia," it is said that the records are strongly against the use of chloroform as a routine anesthetic. In 22,219 chloroform-administrations there were 14 deaths, while in 17,067 administrations of ether, or gas and ether, there was 1 death.

Halsted's method of intestinal anastomosis is graphically illustrated, as is that of Laplace. Modifications of the Murphy button are pictured and described. The X-ray in diagnosis is given a prominent place and all that is newest in connection with this invaluable agent recorded.

The remaining chapters are devoted to gynecology, pediatrics, pathology, nervous and mental diseases, orthopedic surgery, ophthalmology, otology, diseases of the nose and larynx, cutaneous diseases and syphilis, materia medica, physiology, legal medicine, public hygiene and preventive medicine, and physiological chemistry, and each covers the ground in a very complete and satisfactory manner.

The book contains 1102 pages, is admirably indexed, and has a number of full-page plates, some in colors, and numerous illustrations in the text. Taken all in all it is invaluable in the special field which it aims to cover and the busy practitioner cannot afford to be without it.

Die Technik und der Comfort der Ernahrung. (Technical Methods of Conveniently Feeding the Sick.) Von Dr. Martin Mendelsohn, Privat-docent der inneren Medicin an der Universität Berlin. Leipsic: George Thieme, 1898.

The author of this little brochure, which is a reprint from Leyden's well-known work on the diet and feeding in disease, has written some interesting books on the technics of nursing and other subjects, closely connected with the treatment of patients other than by drugs. The work under consideration deals with the proper preparation of food for the sick and the manner of giving it to patients. The temperature of the nutritive material and methods of keeping it at any temperature, a discussion of dry, soft, fluid, and solid diets, a description of apparatus for feeding the sick at any stage of convalescence, apparatus for changing the position of patients in bed, and a consideration of the patient's surroundings while eating are the topics which the author handles with evident knowledge and certainly with skill. The little book contains much that is interesting and much that is valuable, and is well illustrated.

THERAPEUTIC HINTS.

Treatment of Eczema by Ointments Containing Sugar.—Hodara of Constantinople uses for cases of moist eczema, impetigo, ecthyma, subnasal sycosis, and other skin diseases of vesicular or pustular nature, an ointment of zinc oxid and sulphur containing sugar, the desiccative and keratoplastic properties of which he highly values.

℞ Sacchari pulv.
Zinci oxidi
Lanolini
Vaselini } aa . . . Parts xx
Sulphuris sublim.
Glycerini } aa . . Parts x.

M. Ft. unguentum. Sig. External use.

For subnasal sycosis he advises continuous application of the ointment to affected parts of the upper lip, and in addition repeated swabbing of the nasal mucous membrane with a solution of silver nitrate, at first one per cent. gradually increased to four per cent. As improvement advances the ointment may be used but once a day, but swabbing should be continued for a time after the cure is completed to avoid a relapse. Hodara has thus effected cures without epilation.

For seborrheal eczema of a psoriaform type he prescribes as follows:

℞ Sacchari pulv. . . . Parts xx
Chrysarobini . . . . Parts i–ii
Glycerini
Sulphuris sublim. } aa . . Part x
Lanolini
Vaselini } aa . . . . Parts xxx.

M. Ft. unguentum. Sig. External use.

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ORIGINAL ARTICLES.

THE TREATMENT OF SUMMER DIARRHEA IN INFANTS.[1]

BY HENRY DWIGHT CHAPIN, M.D.,
OF NEW YORK.

THE treatment of summer diarrhea in infants naturally may be considered in three parts: preventive, dietetic, and medicinal. In order to appreciate the importance of preventive management it may be well to glance at some of the well-known causative factors that are in constant operation during warm weather. In the first place, all the varieties of diarrhea seen during the year are increased and aggravated in summer. The various mistakes so commonly seen in the feeding of infants take the front rank as causes. Gastric or intestinal indigestion usually precedes a diarrhea. Too frequent feeding, either at the breast or bottle, is a common underlying cause of infantile indigestion. When the bottle is used a larger amount of fluid than the infant's stomach can comfortably hold or digest is very often given. Cow's milk is not properly modified to suit the infant's age and digestion in many cases, or various foods containing large amounts of starch or sugar are employed. With the advent of hot weather the various kinds of infantile indigestion are liable to take on a dangerous diarrheal form. This is due to an acute fermentation or putrefaction of the gastro-intestinal contents, with the consequent absorption of toxic substances which quickly induces grave, if not fatal, symptoms. The heat of summer first depresses the vitality and weakens the resisting power of the infant, and then induces subtle and dangerous changes in the cow's milk which is its common food. The degree of heat required to start an epidemic of summer diarrhea seems to be fairly constant. Some years ago Dr. Seibert, in studying this subject, showed that an epidemic would start when the average minimum temperature reached 60° F. This condition begins in June and lasts through September, which are thus the dangerous months. The accompanying table shows the number of deaths from diarrheal diseases in New York City during the past five years in children under five years of age, through the summer months, with the mean temperature of the corresponding periods.

A glance at this table shows that July gives much the highest death-rate, and the average mean temperature of this month is from one to four degrees higher than August. The slight difference in temperature, however, is not sufficient to account for the much higher mortality. In 1895 it will be seen that the mean temperature of August was three degrees higher than July, which is most exceptional for summers in this latitude, and yet the mortality of July was 1084 against 633 for August. The explanation is that after several weeks of warm weather the weaker babies die off. Hot weather usually begins late in May or early in June, so that by July there has been a month of fairly continuous heat. After several days of very great heat, the severe diarrheas begin, often when the temperature has had a distinct and grateful fall.

DEATHS UNDER FIVE YEARS.

	1894.		1895.		1896.		1897.		1898.	
	Deaths.	Mean Temp.	Deaths.	Mean Temp.	Deaths.	Mean Temp.	Deaths.	Mean Temp.	Deaths.	Mean Temp.
June	361	70.41	281	72.80	363	69.80	220	67.45	157	71.15
July	1107	74.87	1084	72.50	880	76.80	914	75.92	835	76 05
August	499	70.57	643	75.60	564	76.10	446	73.22	650	75.33
September	346	68.81	441	70.80	245	67.20	319	66.99	465	70.27

When the baby feels the greatest depression from the heat the deleterious changes in the cow's milk are most marked, hence bottle-babies are by far the greatest sufferers. Not only does the lactic-acid fermentation begin, but various colonies of bacteria are multiplied, such as the saprophytes or those of the proteus group. Infants under two years are the greatest sufferers. Preventive treatment, if carried out with thought and thoroughness, will do much to alleviate this annual summer scourge. Such treat-

[1] Read at a general meeting of the New York Academy of Medicine, June 1, 1899. For discussion see page 87.

ment will include in its scope an oversight of the city, the domicile, and the life and habits of the children. The responsibility of the city is to be doubly watchful in the interests of public health. The streets must be kept scrupulously clean. All garbage and decaying animal and vegetable matter should be promptly removed and destroyed. Perishable food stuffs, and particularly cow's milk, require careful watching and regulation. While milk with a certain minimum proportion of cream is now called for there should be a certain standard of freshness required as well. The number of bacteria found in each cubic centimeter of milk usually bears a direct ratio to the age of the milk. What is needed is a better regulation of a city's milk-supply at its source, namely, the dairy-farm. If the dairy farmer were compelled by government rules carefully laid down and enforced to regulate the production and handling of milk according to cleanly and scientific principles, and such milk could be delivered to the consumer within twelve hours. summer diarrhea in infants would be reduced to a minimum. In a city like New York, which draws its milk-supply from such a wide area and from great distances, it would be difficult to devise a scheme of milk inspection on the lines above noted that would be practicable, but it is the goal to be sought for. If city infants could be supplied with a clean and fairly fresh milk, the illness and mortality from summer diarrhea would lessen in a very marked degree. In this connection it is interesting to note the report that the city of St. Paul now requires an official inspection of all cows from which the milk supply for that town is taken.

Another way in which the city can modify the deleterious effects of the heated term is by planting trees and furnishing small parks and breathing-places for infants and little children. In a thoughtful and suggestive article, entitled "Vegetation a Remedy for the Summer Heat of Cities," in the *Popular Science Monthly* for February, 1899, Dr. Stephen Smith shows how trees are of the greatest utility in modifying and equalizing climatic conditions. He states that it is a well-established fact that an average temperature of the air of 54° F. is best adapted to public health, as at that temperature the decomposition of animal and vegetable matter is slight, and normal temperature is most easily maintained. Every degree of temperature above or below this point requires an action of the heat-regulating power to maintain a proper equilibrium. As the heat-regulating centers in infants and young children are most unstable, the direct action of prolonged heat upon their bodies is a powerful agent in increasing summer mortality from all kinds of illness. In a large and densely populated town the solar heat is conserved and reflected by the stone and asphalt of the streets as well as by the bricks and mortar of buildings. The artificial heat generated in the latter for culinary and manufacturing purposes is also a factor to be considered. Even during the night the stones by retaining their heat prevent any fall in temperature, sufficient to afford relief. Here is where the modifying effects of trees would be most beneficial. As trees maintain an average mean temperature of 54° F. in all seasons, it is easy to see what a constant cooling influence they would possess in an atmosphere of 90° F. Add to this the constant exhalation from the leaves of watery vapor that has been absorbed from the moisture in the soil as well as from the surrounding air, and the cooling effect is much enhanced. This takes place most actively during the heated portion of the day when it is most needed. A general purification of the air is not the least benefit to be derived from vegetation, as CO_2 is absorbed and O given out, just the reverse of what takes place in the animal economy. The purifying and cooling influence of trees placed uniformly through the city would have a marked influence upon the public health, especially that of little children. The Tree Planting Association of New York has proven that various species of trees are adapted to our soil, and, with a little care, can be made to thrive. It seems, however, in a matter that concerns not only the health but the beauty of the town, the city itself should be responsible for a uniform and continuous effort. If our blazing thoroughfares were lined with shade trees, the summer heat would not be so intolerable and unhealthful to adults and children alike.

Much may be done in the domicile, to prevent diarrhea among the infant inmates. The principal efforts will be in the line of extra cleanliness. Food of all kinds must be removed when the meal is ended. Milk must be boiled or pasteurized as soon as it is delivered in the morning, then properly diluted or modified in bulk for the day and placed upon ice ready for use. The less it is handled after this the better. All diapers as soon as removed should be soaked in a solution of chlorid of lime or similar disinfectant, before being washed. By keeping the rooms well closed during the heat of the day and freely aired at night, some equalization of temperature will result.

Preventive treatment can attain brilliant results in a watchful oversight of all the hygienic details of the infant's life. Mothers, particularly among the poor, should be taught to consult physicians oftener with reference to preventive agencies, especially when threatened by an epidemic of summer diarrhea.

Babies are often dressed too warmly and with needlessly tight-fitting garments in summer. In very hot weather a single garment is often sufficient as it is comfortable and cooling to be able to freely move the arms and legs. Plenty of fresh air can be had early in the morning and late in the afternoon without exposing the infant to the heat of midday, even in the shade. While trips to the seaside are healthful care must be exercised in reference to day excursions where heat and fatigue or slightly spoiled food may do more harm than the fresh air will do good. It is here assumed that the parents are unable to give the infants a change to the seaside or country, which, of course is highly desirable. In case a change of air is feasible for a bottle-baby, a locality where the milk-supply is known to be good must always have the preference. Frequent bathing is valuable in prophylaxis. In dispensary practice I often direct mothers to let little children be put in a tub and play in tepid water for several hours. Both the temperature of the air and that of the body are highest in summer from about two to five in the afternoon, and this is the time they are stripped and allowed to play in the water. The effects of the heat at the worst part of the day are thus neutralized. Babies too small for the tub may be sponged with water to which alcohol or vinegar has been added. In reference to diet very explicit directions must be given. *In general, a bottle-baby should have less bulk of food and a higher dilution of milk in very hot weather* than it is accustomed to under more favorable conditions. If this simple precaution were taken much summer diarrhea would be avoided. The intervals between feedings may also be prolonged if the digestion shows any signs of derangement, but water is to be freely given during these intervals.

With reference to milk, I prefer boiling or pasteurization to sterilization. In case of prolonged and intense warm weather, sterilization may temporarily be preferable.

The final effort of preventive treatment is to note the first signs of gastric or intestinal indigestion, as both may often be checked by simple dietetic or medicinal means before a marked diarrhea begins.

In the dietetic treatment of summer diarrhea, bearing in mind that a majority of the cases consist largely of milk-poisoning, all forms of milk must be temporarily withheld. Even the breast may be withdrawn in nursing babies until vomiting ceases. In the interval, water may be frequently given, but in small quantities at a time, if the stomach tends to reject it. The common mistake is in giving too much nourishment at this time, as the infant seems to be weak and in need of support. It is not the food taken, but that which is assimilated that supports, hence it is folly to force milk upon a baby at a time when the digestive powers are weakened, if not entirely arrested. Many a summer diarrhea would be stopped at the very beginning if milk were entirely withheld for from twelve to forty-eight hours. When it is necessary to withhold milk for any length of time, other forms of nourishment may easily be substituted. One of the most easily procurable and satisfactory is egg-water. The white of an egg is thoroughly stirred in half a glass of cool water. This forms a pure and easily assimilable albumen water. The only objection is its tastelessness, and I have overcome this by the addition of about ten drops of aromatic spirits of ammonia. In case there is a tendency to vomit, this aromatic stimulant in small doses, as above, seems to check the stomach irritation. Among other substitutes for milk may be mentioned thin gruels made from barley or wheat flour and cold whey. When the cereals are used, the starch may be easily dextrinized by one of the preparations of diastase that are now on the market. If cow's milk is withheld for several days or longer, mutton-broth from which all the fat has been carefully skimmed, makes a good substitute. Expressed beef-juice with the fat removed and diluted with cool water makes a stimulating and nourishing drink. When the acute symptoms have subsided and milk is resumed, it must be tentatively begun at long intervals and with high dilution. If a prescription to be filled at a laboratory were written it might call for fat, 1 per cent.; sugar, 4 per cent.; proteids, 0.50 per cent.; or plain fresh milk may be diluted five or six times with sugar-water. By thus starting with a considerable reduction of the casein and fat, these solids may be gradually increased to a proportion that is proper for the infant's age and development. The difficulty of digesting the tough curd of cow's milk is a constant source of trouble. After trying various methods of overcoming this difficulty, a proper dilution of the milk with decoctions of the cereals as advised many years ago by Jacobi, has yielded the best results in my hands. In hot weather a gruel made of wheat or barley flour, and partially or completely dextrinized, will modify and attenuate the clots of casein in a favorable manner. In a series of experiments recently made through the courtesy and with the cooperation of Professor Graham Lusk at his laboratory in the University Medical School, liquid rennet was added to various preparations of milk and heated to 40° C. Equal parts of barley-water and milk gave smaller and more flocculent curds than equal parts of plain water and milk. A dog with gastric fistula was fed on consecutive days with these solutions, and the contents of the stomach withdrawn at the end of half an hour. The

clots were finer and apparently more digested when the barley-water and milk was used than in the case of plain water and milk. Aside from the results of such experiments, the clinical effect of diluting with the gruels must commend their use. Babies are less apt to vomit tough, stringy curds, or to pass them by the bowel.

The medicinal treatment usually assumes less importance in direct proportion as the preventive and dietetic management are carefully followed. Indiscriminate and abundant drugging in this disease are now relegated to the limbo of the past, astringents, antiseptics, and opiates alike. The real indications for drugs are few and easily apprehended. As summer diarrhea is so apt to be of a putrefactive nature, all agree upon the necessity of completely clearing out the gastro-intestinal tract as a necessary start in treatment. In most cases, when the physician is called, the stools are loose and there may be vomiting. By at once stopping all milk, the stomach is soon emptied, and the principal indication is to clear out the bowel. If vomiting continues, drafts of tepid water may be administered, which, when rejected by the stomach, washes out that organ. I do not believe it is often necessary to wash out the stomach with the tube. Sometimes when there is excessive irritation of the stomach, with much production of mucus, one washing out, however, will give relief. I usually employ tablet triturates of calomel, $\frac{1}{10}$ of a grain every hour until six or eight have been administered. These small doses act as a sort of stimulant to the bowel, increase glandular secretion and usually effectively clear the canal of its fermenting contents. The drug is also supposed to have some antifermentative effect. A good sized dose of castor oil is also effectual, and is followed by a sedative effect on the mucous membrane. If the stomach is very irritable, it may be difficult to administer on account of vomiting. Elimination may sometimes be hastened by irrigation of the lower bowel with normal salt solution. Mucus as well as fermenting milk may be thus removed. For those not accustomed to this procedure, a hard rubber rectal tube is preferable, as the soft tube bends on itself on account of the length and marked curve of the sigmoid flexure in infants. The drug that I have found most useful in the summer diarrhea of infants is the subnitrate of bismuth in large doses. As far as I have observed the subcarbonate, salicylate, and subgallate of bismuth and beta naphthol bismuth have no decided advantage over the subnitrate, which is everywhere procurable. A baby of from six to twelve months can take from ten to twenty grains of the subnitrate every two or three hours. The insoluble quality of the bismuth and its sedative local effect make it most valuable. Irritation and fermentation, even under proper dietetic management, remain longest in the ileum and colon and this tract is reached by the local action of the bismuth.

Most of the so-called antiseptics have irritating qualities, and I do not think that even in antiseptic action they act better than large doses of bismuth. It is manifestly impossible to put the intestinal tract in any condition that can be called antiseptic by the administration of drugs. Small doses of aromatic spirits of ammonia, 10 to 20 drops, well diluted with water, seem to stimulate the mucous membranes and refresh the infant. I give alcohol very sparingly in these cases as it seems to lower the digestive powers. In case of great weakness or collapse from 10 to 30 drops of whisky may be given well diluted. Formerly I gave whisky almost as a routine treatment in these summer diarrheas, but now it is used only for special indications and temporarily. If the discharges are profuse and exhausting and the baby sinks into a semi-stupor, with depressed fontanelle, very free stimulation by whisky and ammonia is indicated, as spurious hydrocephalus is thus ushered in. There is one drug that was formerly much abused and is perhaps not used enough now in proper cases, namely, opium. It should never be given combined with other drugs; indeed, diarrhea mixtures of all kinds are to be deprecated. Opium is contraindicated until the bowel has been thoroughly emptied of irritating contents, when the stools are scanty and foul-smelling and when cerebral symptoms threaten. In cases, however, in which rapid peristalsis and profuse glandular secretion persist, a few moderate doses of opium are most valuable and may aid in saving life.

The order of importance in treatment is that sketched in the preceding portion of this paper: first, prevention; second, careful dieting, and, finally, drug administration. If the first two are carefully carried out it will not so often be necessary to employ medicines.

HIGH ALTITUDE AND HEART DISEASE.[1]

By ROBERT H. BABCOCK, M.D.,
of Chicago, Ill.

My attention was first attracted to this subject years ago by the following interesting case: In November, 1886, I was consulted by Dr. N., a practising physician in the interior of New York State, who was on his return from Colorado. He was a powerfully built man of five feet nine inches in height, and 185 pounds in weight. Until October,

[1] Read at the fourteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

1885, he had enjoyed robust health, and prided himself on his strength and feats of physical endurance. He then one day carried a barrel of flour up stairs on his shoulders, and on reaching the top was seized with precordial pain and palpitation. From that time his health failed, a slight dry cough developed, and once he expectorated a little blood. This led him to consult two eminent physicians of New York City, one of whom diagnosticated incipient tuberculosis of the right apex, while the other pronounced the examination negative. Both, however, advised him to go to Denver, which he did in June, 1886. Upon reaching an altitude of 2000 feet *en route* he began to experience considerable distress in the chest, and on arriving at Denver, at an altitude of 5300 feet, he was almost, as he stated, in convulsions. During his six-weeks' stay his dyspnea and precordial distress were so great that he at length consulted Dr. Dennison, who, he said, found his lungs normal, but demonstrated marked dilatation of the right ventricle. The advice was given to seek a lower altitude, and the patient went to South Dakota, where the elevation was but 1500 feet. His symptoms gradually left him, and after a few days he was able to ride horseback without discomfort.

This was about the middle of August, prior to his appearance at my office. My records, made after two examinations on successive days, state in brief that the lungs were normal, but that there was a short, rough presystolic and a faint blowing systolic apex murmur with accentuated pulmonic second sound and increase of dulness to the right. The pulse was somewhat accelerated, feeble, and slightly irregular. I made a diagnosis of mitral stenosis and insufficiency, either resulting from or aggravated by the unwise physical effort of the year before, and which accounted for the unexpected ill effect of high altitude. I have never heard from the patient since that time.

CASE II. is that of Dr. W. H. B., whom I first examined in February, 1887, making a diagnosis of fatty degeneration, chiefly of the left ventricle, due to coronary sclerosis and accompanied by attacks of angina pectoris. In November, 1887, he reported himself as well except for inability to walk rapidly on account of dyspnea. During the summer of 1889 he made a trip to Alaska, concerning the advisability of which he had consulted me, and against which I had urged the necessity of his being subjected to considerable risk in traveling over high mountains on the Canadian Pacific Railroad. Upon his return, however, he reported that at an altitude of 7000 feet he had been able to walk without any discomfort whatever.

That serious structural disease existed is attested by the sad fact of his sudden death the following May, 1890, in an attack of angina pectoris at the age of seventy-three. No necropsy was made; but during life the somewhat thickened arteries and accentuated clapping aortic second sound had left no room for doubt of the existence of arteriosclerosis and resulting myocardial changes.

CASE III.—About ten years ago one of my uncles, then seventy-two years of age, visited me *en route* to Denver to pass the summer. His radial arteries felt like a string of beads, and he had secondary left-ventricle hypertrophy, the heart still being competent. I greatly feared the effect of Denver altitude, and cautioned him accordingly; and yet he subsequently reported that while there he had been able to walk without the slightest inconvenience. If he had noticed any effect from the altitude it had been for the better.

CASE IV., like the one immediately preceding, is reported from memory, as no notes were ever made. The late Dr. S. of Chicago, whom it was my privilege to know intimately, once drew my attention to a loud mitral systolic murmur which he said he had had for years, but without particular symptoms. The circumstance that impressed my memory at the time was his comment to the effect that notwithstanding that murmur, which he regarded as indicative of valvular incompetence, he had just made a trip to Colorado Springs, an altitude of 6000 feet, and had been able to walk about with less discomfort than his wife, who so far as he or anybody else knew possessed a healthy heart. This lady was rather short and inclined to corpulence, it may be remarked in passing. The doctor at that time was about sixty years of age.

CASE V.—H. P., aged twelve years, was seen in June, 1892, one month subsequent to an operation for appendicitis during convalescence from which anasarca and other signs of destroyed compensation of a long-standing mitral lesion had appeared. At the date of my visit digitalis and other appropriate treatment had begun to restore cardiac competence, and my opinion was desired upon the advisability of the boy's return to his home in Trinidad, Col. At the age of six years, while resident in that place, he had suffered from acute articular rheumatism, and then for the first time had been found to have a mitral lesion. During the next four years he had been in tolerable health, but had not been able to play with other children because of cardiac symptoms. Two years before my examination he had again suffered from rheumatism with pleuritis and pericarditis for which the precordia had been blistered. Nevertheless, he had been able to remain at Trinidad, at an

elevation of 6000 feet, until the development of the appendicitis.

Upon examination I discovered mitral regurgitation with great secondary dilatation, pleuropericardial adhesions, and old pleuritic adhesions at the base of both lungs, and great visceral engorgement. Of course the advice was given not to return to Trinidad, where his tuberculous father was residing. The patient passed the remainder of the summer of 1892 in Canada, and I believe regained such a measure of compensation that during the fall of that year he was taken back to Colorado. I did not see the boy again, but have since learned indirectly that he failed progressively thereafter, and died about four months after his arrival there.

Case VI.—During the summer of 1894 an attorney, aged forty years, consulted me for an opinion concerning the state of his heart, and, briefly stated, was found to have a pronounced but perfectly compensated insufficiency of the aortic valves. He furnished the following interesting history: He had but shortly before returned from a two-weeks' visit in Colorado, where at the altitude of Denver and Colorado Springs he had ridden about on his wheel without any discomfort. One day he attempted the ascent by train of Pike's Peak, which has an altitude of 14,137 feet. Distress became so great that he was in collapse by the time the summit was reached. The descent was made at once; his consciousness returned before he reached the foot, and when again at the altitude of Colorado Springs he mounted his bicycle and rode away, apparently none the worse for his foolhardy adventure. I have not seen the patient since my first examination.

Case VII.—At the present writing I have in charge a lady aged about forty years, who has been in bed for the last four months in an attempt to preserve from total loss what still remains of a rather inadequate compensation of an extreme aortic stenosis. She has known of her cardiac lesion for the past seven years. Although she had been cautioned against high altitudes she was compelled about five years ago to accompany a tuberculous stepson to New Mexico. At first they went to Colorado Springs, where they remained a month. There she was not able to walk more than a few hundred feet without sitting down to recover breath. For some reason they then went to Sante Fé, 7000 feet, but remained only two days because of the great distress occasioned to the lady. In consequence they next traveled to Eddy in the Pecos Valley, where she was able to stay until the young man's death, two years subsequently. While there, at an elevation of about 3000 feet, the lady experienced no particular discomfort, being able to walk about the house and grounds without dyspnea. She is positive that she has never been as well since her sojourn in New Mexico, and in fact was compelled to seek medical advice for her cardiac asthenia soon thereafter.

Case VIII. is that of a lady, aged sixty-eight years, who, immediately before consulting me, had endured the railway journey from San Francisco to Chicago over the Sierra Nevada and Rocky Mountains. At the summit of the former, 7500 feet, and again at Hagerman Pass, 11,500 feet, she suffered considerably from difficulty in breathing, but at Colorado Springs she experienced no discomfort. Nevertheless, she thought it prudent to sit still in the car and not attempt walking. This patient had a pronounced mitral systolic murmur and great sec ondary cardiac dilatation, particularly of the right auricle, as shown by the turgid external jugular veins and by percussion. There was evidence also of arteriosclerosis; and as the pulsations of the thin-walled and probably dilated aorta were visible in the suprasternal fossa and communicated to the distended veins, the erroneous diagnosis had been made of aortic aneurism. Rest in bed, aided by the administration of strophanthus and cathartics, lessened the cardiac dilatation markedly and more promptly than I had dared to hope for, and soon thereafter I lost sight of the patient. Six months later she died in charge of a homeopathist, who, I was told, said she developed an ovarian cyst.

Case IX.—Last summer Miss N., aged twenty-one years, was referred to me by Dr. Minor of Asheville, N. C., because she had not been able to endure the 2500 feet altitude of Asheville, and had to return to her home in Chicago. She stated that she had been forced to leave there on account of the dyspnea experienced whenever she attempted to do any walking, although such had not been the case when there two years earlier. Examination disclosed free mitral regurgitation, and in addition extensive adhesions between the pericardium and left pleura, as shown by retracted lung border and friction râles on inspiration. The apex was fixed in the sixth left interspace fully two inches outside of the mammary line. The right heart was not bound down. Hepatic and other visceral engorgement was extreme, and disappeared on appropriate treatment, with the lessening dilatation of the right ventricle. But the ready dilatability of the right heart has its bearing on the patient's inability to endure the moderate altitude of 2500 feet.

Of course I realize that nine cases afford altogether too slender a basis on which to build a theory regarding the effect of high altitude on the heart and circulation, but they seem to me worth a few minutes study in the hope that they may aid us in

deciding the question whether or not the existence of heart disease always prohibits residence or travel in elevated regions. That such is the case is the general opinion, I think, an opinion in which I formerly concurred.

Regnard, on the contrary, thinks that cardiac lesions *per se* do not contraindicate sojourn at high elevations when such residence is necessary; yet he would not advise it because there is nothing in the condition of health of these patients demanding such climatic treatment, in fact, hematosis would be diminished; but aside from this no harm would result from the decreased blood pressure; and if a cardiac sufferer chose to endure the discomfort he would at first experience until he became acclimated, he could do so with impunity. Regnard evidently bases his opinion on the study of the phenomena of mountain sickness which his experiments have led him to attribute not to diminution of blood pressure, but to want of sufficient oxygen supplied to the tissues and organs—"*l'asphyxie des tissus survient.*"

Although such may be the explanation of mountain sickness, I, nevertheless, think that Regnard's view regarding the effect, or rather, want of permanent effect on heart patients, is too sweeping, as some of my foregoing cases show. There is a quickening of the pulse-rate, and this it is which I think must be reckoned with in considering the question of altitude in cardiac disease.

In an interesting paper in the London *Lancet* of October 15, 1898, Sunderland reports the arrest of menorrhagia at high altitude, 5800 feet, and suggests the explanation that by reason of diminished air pressure on the abdomen and in the lungs the large distensible veins within the peritoneal cavity become dilated,and thus favor a more rapid return flow of blood from the congested vessels within the pelvis. Unfortunately, this theory is untenable, since it must assume an expansion of the tissues in the walls and organs of the abdomen, and as Regnard argues, such an expansion of solids and fluids of the body is impossible when the entire surface of the body is subjected to uniform diminution of atmospheric pressure. It would be far otherwise if the vessels were filled with a gas instead of blood. Sunderland's explanation is correct only in part. The menorrhagia is arrested in consequence of more active circulation undoubtedly, yet this acceleration is not due to lessened blood pressure occasioned by essened air pressure, but I believe, to those modifications of the respiratory movements incident to owered atmospheric pressure.

According to Regnard the effect of high altitude is to quicken respirations at first and render them more shallow. When, however, the individual has become accustomed to the diminution of air pressure, the depth of respiration increases and may even exceed the average. That this increase in the depth and frequency of respiration must accelerate the blood-flow will become apparent upon consideration of the effect of respiratory movements on the circulation. Briefly stated it may be said that with each inspiration pressure falls within the two venæ cavæ in consequence of their contents being aspirated into the right auricle and ventricle. This latter chamber, therefore, receives and discharges an increased supply of blood into the pulmonary artery, while under the dilating influence of inspiratory expansion of the lungs the flow within the pulmonary vessels is hastened. The consequence is that toward the height of inspiration and during the fore part of expiration a larger volume of blood is discharged into the aorta and pressure within this vessel rises. During the latter part of expiration and in the beginning of inspiration, on the contrary, the reverse obtains. If now respiratory movements be quickened and deepened, as at high altitudes, the rate of the heart's contractions must undergo a corresponding acceleration.

Another factor in hastening the flow of blood to the heart is the action of the diaphragm. According to physiologists, the descent of this muscle by diminishing the size of the abdominal cavity causes an upward flow of blood out of the abdominal veins into the inferior vena cava and thus exerts a pumping action. It is evident, therefore, that herein lies another by no means insignificant explanation of the beneficial effect of the high altitude in Sunderland's cases of menorrhagia.

That an acceleration of the circulation is not merely theoretic is substantiated by the statement of Regnard and others who declare that the pulse may reach even 130 or 140 beats to the minute. Furthermore, Regnard reproduces three sphygmographic tracings which show a diminution in the size as well as increase in the rate of the pulse at an elevation of 1050 meters, while at the summit of Mont Blanc, 4810 meters, the smallness of the pulse becomes still more pronounced. Now this diminution of the pulse must be due either to engorgement and weakness of the right ventricle, in consequence of which it discharges an abnormally small volume of blood into the pulmonic system, or to the fact that the heart in its entirety handles a small amount of blood with each cardiac cycle. The former hypothesis is untenable, since it is at variance with the effects observed in menorrhagia. Stasis in the right heart would have led ultimately to increased engorgement of the uterine veins and capillaries and

thus have aggravated the condition. Therefore we must assume that the smallness of the pulse at the summit of Mont Blanc was owing to the rapidity of the cardiac contractions, while its diminution of tension was not due to dilatation of the arteries from lessened air pressure, but to the smallness of the blood-wave resulting from the rapidity of the heart-beats.

Let us see how this simple explanation can be applied to the foregoing nine cases. Cases II. and III. were instances of arteriosclerosis without valvular disease and in both arterial tension was consequently increased. This threw extra work upon the left ventricle, which in Case III. was adequately met by compensatory hypertrophy, while in Case II. the presumably degenerated myocardium was unequal to the task and dyspnea on exertion resulted. At 7000 feet, however, the quickened return circulation in the veins relieved pressure in the arteries, the weakened left ventricle found its work easier in consequence, and the patient could walk about without discomfort. For the same reason the third patient was able to spend the summer in Denver without consciousness of any difference between the altitude there and that of Cleveland, where he resided.

Cases IV. and VI. were instances of regurgitant disease, the one mitral, the other aortic, and both patients had experienced no difficulty from exercise at an altitude of about 6000 feet. The reason for this seems to me to lie partly in the diminution of arterial tension and partly in the relief felt by the left ventricle. Diminution of pulse tension would tend to lessen the force of the regurgitant stream in either case and thus lighten the work of the heart. In mitral incompetence the dilatation of the pulmonary vessels and quickening of the flow through them incident to deepened respirations would relieve the right heart, and it is conceivable that dyspnea might actually be lessened thereby. As in regurgitant lesions the tendency is for the pulse-rate to be quickened, the heart ought to find but little difficulty in adjusting itself to the acceleration of the venous flow occasioned by lowered atmospheric pressure, and I believe such is the case when complications do not prevent.

In Case VIII. there was free mitral leakage with a greatly distended right auricle, and yet the old lady suffered from dyspnea and cerebral congestion only at altitudes considerably higher than that of Colorado Springs. This must have been owing to her remaining seated in the car, so that notwithstanding the more rapid flow into the right auricle the resistance in front was lessened, as already explained, sufficiently to offset the increased discharge into the auricle. Had she attempted to walk about she would probably have felt very short of breath.

Cases V. and IX. were likewise examples of mitral insufficiency, but complicated by pericardial and pleural adhesions. Here were conditions that would obviously interfere with pulmonary expansion, and would occasion dyspnea under lowering of air pressure even without the existence of a valvular defect. There was probably some increased play of the diaphragm which promoted the flow in the inferior vena cava more rapidly than it could be disposed of by the hampered heart. In the young lady's case the adhesions binding down the left ventricle restricted its systole, while at the same time the unfettered right ventricle was free to receive and discharge its contents until the pulmonary system became surcharged and dyspnea resulted. In a word, pleural and pericardial adhesions furnish a mechanical hindrance to a proper adjustment of both respiratory and circulatory apparatus to a diminution of atmospheric pressure.

Case I. was an instance of mitral stenosis and Case VII of aortic constriction. In both an unyielding barrier to the blood flow existed, and time had to be allowed for the stream to pass the point of obstruction. In stenosis systole is slow and forcible so long as compensation is adequate. Acceleration of the circulation at high altitudes would quicken cardiac contractions; with the shortening of systole time would not be allowed for complete emptying of the chambers back of the constriction; stasis in the pulmonary vessels would be promoted with corresponding dyspnea that might readily grow urgent on exercise.

CONCLUSIONS.

1. All forms of cardiac disease do not contraindicate sojourn at a high altitude.

2. The ill effects of low atmospheric pressure in some forms of cardiac disease are explicable on the hypothesis of acceleration of venous flow and corresponding quickening of the heart beats.

3. Consequently those forms with which high altitude is likely to prove incompatible are pronounced aortic or mitral stenosis, and regurgitant disease complicated by pleural and pericardial adhesions.

4. On the other hand, patients with uncomplicated regurgitant lesions or arteriosclerosis with or without myocardial changes, may endure low atmospheric pressure without injury.

Yellow Fever in Mexico and Central America.—The epidemic at Vera Cruz is still spreading, about fifty new cases being reported each week. The mortality has been high, averaging about 47 per cent. At Panama 34 cases have been reported, with 18 deaths.

CYSTITIS; ITS CAUSE AND TREATMENT.

BY GEORGE T. HOWLAND, M.D.,
OF WASHINGTON, D. C.

THE different opinions that have been held, and continue to be held to a certain extent, as to the cause of cystitis, are many and varied. C. Monsell Moullin,[1] in his very interesting work, speaks correctly when he says, "It is better that the peculiarly misleading term, 'catarrhal cystitis' should be dropped." Melchior[2] states that while he does not deny the possibility of the occurrence of catarrhal cystitis, so far he has never met with it. Guyon[3] expressly states that there is no variety of cystitis that is not purulent. Cohnheim[4] also states that pus is always present in the urine in cases of cystitis, whether the inflammation is acute or chronic.

That the starting-point in cystitis is due to an infection, and that the disease is continued by the action of one or more of the various pathogenic micro-organisms, may be said to be an axiom as far as this disease is concerned. The easiest avenue through which an infection may occur is through the urethra, in which normally a number of different organisms are constantly present. Most of these organisms are non-pathogenic, but the colon bacillus is present in a very large proportion. It is still undecided whether the deeper portions of the male urethra, if healthy, harbors pathogenic organisms for any length of time. When the urethra has been altered by stricture or by enlargement of the prostate the chances of pathogenic organisms being able to maintain themselves in it are greatly enhanced. In women who have borne many children, in whom the urethra is dilated and patulous, an infection may occur by the organisms passing into the bladder from the urethra without the aid of instruments. In women the neighborhood of the meatus urinarius is never free from micro-organisms, and cultures of the colon bacillus mixed with others can nearly always be found. The bladder may also be infected from the kidney, either when the kidney or its pelvis is diseased, as in pyelitis or pyelonephrosis, or even when the kidney is healthy the organisms may be eliminated from the body through it and thus infect the bladder.

Reymond[5] has proven beyond any question that bacteria can enter the bladder direct from inflammatory areas in the neighboring organs. He found cystitis of frequent occurrence in women suffering from inflammation of the uterus or of the Fallopian tubes and in the majority of cases proved by culture that the organisms were the same in both organs. As an additional proof he found in a case of salpingitis in one tube a localized cystitis on the same side of the bladder. An infection may come from rupture into the bladder of purulent collections in other abdominal viscera, as for instance, tubal, ovarian or perityphlitic abscesses.

The direct predisposing cause of cystitis has not yet been fully determined. We know that pyogenic organisms may be present in a normal bladder and never set up cystitis. This has been proved by experiments both on the lower animals and on human beings. The typhoid bacillus and many other pyogenic organisms are excreted by the kidneys and pass through the bladder without doing it the slightest harm. This shows that the presence of bacteria alone is not sufficient in the normal bladder to set up an inflammatory reaction. It is well known that after a slight traumatism of the bladder wall cystitis nearly always results. Under this head we can place cystitis following catheterization and instrumentation of the bladder, also the cystitis produced by stone in the bladder. We also find cystitis accompanying the growth of either benign or malignant neoplasms of the bladder wall. The ingestion of irritating drugs, by their caustic effects on the vesical mucosa, prepare a suitable soil for the entrance of the bacteria.

A question at present receiving much important consideration is whether the gonococcus of Neisser is or is not capable of producing cystitis. The French observers believe that this germ cannot produce a true cystitis, yet a few cases have been reported which point to a pure infection by this organism. Krogus and Barlow[1] each record cases, as does Melchior, and more recently Wertheim[2] demonstrated before the Berlin Obstetrical and Gynecological Society a preparation from a case of gonorrheal cystitis which showed the capillary and precapillary veins filled with gonococci and a condition of gonorrheal thrombosis and thrombophlebitis. The cystitis was secondary to a gonorrheal vulvovaginitis and was associated with infection of both ulnar joints. The microscopic sections were made from a portion of the mucous membrane excised during cystoscopic examination. A small portion of the excised mucous membrane was placed in prepared blood-serum with the result that a pure culture of gonococci was obtained. Wertheim says, regardless of the statement of Guyon, Bumm, Sanger, and others (that a gonorrheal infection of the bladder is always a mixed infection), that the finding of gonococci alone in this case proves beyond

[1] "Inflammation of the Bladder," p. 22, 1898.
[2] "Cystite et Infection Urinaire," Paris, p. 342, 1895.
[3] "Leçons Cliniques sur les Affection Chir. de la Vessie et la Prostate," Paris, p. 611, 1888.
[4] *Vorles. u. Allg. Path.*, Leipsig, 1880.
[5] *Ann. des. Mal. des Organes Gen. Urin.*, Paris, April, 1893.

[1] *Arch. f. Dermat. u. Syph.*, 1892.
[2] *Zeitschr. f. Geburtshulfe u. Gynäkologie*, Band 35, Heft 1, 1898.

doubt that pure gonorrheal cystitis can occur. A gonorrheal thrombosis and thrombophlebitis had never before been demonstrated, and the writer believes that a step toward a better knowledge of this disease has been made. He says it is useless to seek for the gonococci except in the very acute stage as they very soon disappear. On the other hand, Bauzet, in a very interesting paper on this subject, makes the following statement: "The gonococcus of Neisser is not proved to have pyogenic properties, except as regards the mucosa of the urethra, the conjunctiva, and the female genital organs." I have seen a number of cases in which cystitis was present or followed directly after a posterior urethral gonorrhea, but I have never been able to find the gonococcus of Neisser alone; it was always accompanied by other pyogenic organisms.

The pathogenic bacteria which have been most commonly found in cystitis are the following: bacillus coli communis, streptococcus pyogenes, staphylococcus pyogenes albus, citreus, and aureus; bacillus lactis aerogenes, tubercle bacillus, gonococcus of Neisser (mixed infection), the typhold bacillus, and several varieties of the proteus. We may state that from our present knowledge the following facts may be laid down as the cause of cystitis:

1. Cystitis is always caused by the presence of bacteria.

2. The mere presence of bacteria is insufficient to cause cystitis; a further predisposing cause is necessary.

3. Under favorable conditions any pathogenic organism may give rise to cystitis.

4. The entrance of pathogenic organisms into the bladder may be through the urethra, through the ureter from an infected kidney, from inflammatory areas in the neighboring parts, and through the blood-stream and the lymphatics.

From what has been said in regard to the cause of cystitis it is plain that the prevention of this disease depends upon the avoidance of local congestion and of the entrance of the germs into the bladder. Local congestion may occur in spite of our best efforts to prevent it, and septic germs may enter the bladder from causes over which we have not the slightest control. It is seldom that we are called to see a case of cystitis in which these features are not already present.

Proper hygienic and antiseptic precautions are necessary in all cases of surgical interference in the urethra and bladder and all instrumentation in or about the urethra or bladder must be conducted under strict antiseptic precautions. The entire genito-urinary tract should be made as near aseptic as possible and this can be accomplished through the administration of certain drugs which have the power of preventing the formation of bacteria in the bladder. Acute cystitis is best treated by rest in bed. Free catharsis should be established in every instance, and the patient should have one or more watery movements of the bowels during each twenty-four hours. This is best accomplished by the administration of sulphate of magnesia every second or third day. If pain (tenesmus) is severe a narcotic is indicated. Morphin is especially useful if there is loss of sleep. A method that I have used with good results when pain on urination is severe is to instill a few drops of a four-per-cent. solution of cocain, and after a few minutes from ten to fifteen drops of a six-per-cent. nitrate of silver solution. Another procedure from which I have seen good results is the use of rectal irrigation of hot water for ten to fifteen minutes, followed by a hot enema of 25 to 30 drops of tincture of opium in four to six ounces of warm starch water. Suppositories of opium are useful in allaying pain. One that I am very fond of, and from which I have had good results, is the following:

Ext. hyocyami	gr. i
Camphoræ monobrom. . . .	gr. ii
Morphin sulphat.	gr. ss
Cocoa butter	q. s.

The diet should be bland; during the acute stage nothing but milk and Vichy, 4 ounces of each being administered every two hours. Of drugs there is a long list to choose from. I have used many of them and none has given me such good results as has been derived from the use of urotropin in 5 grain capsules, four times daily.

We are advised never to wash out the bladder during an acute attack of cystitis. This is good advice, as long as the urine remains bland and the bladder is emptied at each act of urination. But the urine should be watched and as soon as it presents any evidence of undergoing decomposition irrigation should be begun at once. For this purpose a warm two-per-cent. solution (100° to 105° F.) of boric acid or ichthyol may be used to good advantage. One of the best formulæ for irrigation is that introduced by Lobingier,[1] *viz.*:

Acidi borici	3 i
Borax	gr. xxx
Sodium chlorid	gr. xv
Aquæ	Oii.

Warm to 100° or 105° F. The irrigation can be performed through a double-current catheter or a meatus nozzle, after the method suggested by Janet of Paris. The latter method is by far the best and is aseptic.

In the treatment of chronic cystitis active inter-

[1] Medical News, October 15, 1892, p. 425.

ference is always necessary, and even then a permanent cure cannot be assured. To-day the disease is generally treated under four different heads, *viz.:* first, by medicines; second, by irrigations; third, by direct topical treatment, and fourth, by surgical interference. The treatment of chronic cystitis by drugs with an idea of producing a cure is fallacious. That certain drugs do exert a beneficial influence over some of the symptoms cannot be denied, and it is wise to administer a drug that answers the requirements the best in each individual case. Many different drugs are advised; some act well in some cases, while in others no appreciable diminution of the symptoms have been observed. In 1895 Nicolaier[1] called the attention of the profession to urotropin as a drug to be used in the treatment of urinary affections, and especially its property of preventing fermentation of the urine and the development of bacteria. In my opinion it is the best and safest drug that we have at our command. I have been using it during the past three years, and I have yet to find a case in which any disagreeable after effects were observed. As a urinary antiseptic it is superior to any other drug that I know of. The dose is from 3 to 7 grains four times a day. Urotropin has no direct effect on any existing lesion or inflammation; it simply renders the urine aseptic, and is thus a valuable aid in conjunction with other local treatment, except in cases of plain bacteriuria and ammoniacal decomposition without any inflammation of the mucous membrane of the bladder. In such cases it is a specific.

Irrigation of the bladder in chronic cystitis is recognized as one of the best methods of treatment at our command. The only method that should be followed is that of irrigation through the meatus by the meatus-nozzle, as suggested by Janet of Paris. The strictest aseptic precautions must be observed, such as cleansing the glans penis, the meatus, the urethra, and especially the instrument used, as well as the hands. Irrigation may be practised by allowing a small quantity of the irrigating fluid to run into the bladder and then have the patient void it, or better, allow a sufficient amount to run in until the bladder is moderately distended or until the sensation of a full bladder is conveyed to the patient. This latter procedure is the best as the entire mucous surface of the bladder is thus thoroughly cleansed.

When there is much pus and mucus present in the urine it will be well to use a one-sixteenth-per-cent. solution of salicylic acid as recommended by Bryson.[2] With the same end in view a 1-per-cent. solution of nitrate of silver, bichlorid of mercury, 1 to 50,000 or 1 to 60,000, or a 1½-per-cent. solution of carbolic acid may be used, but none of these is so pronounced or lasting as the solution of salicylic acid.

In commencing with this form of treatment it is best to give two treatments a day, one in the morning, the other in the evening. At the morning séance it is best to employ one of the stronger solutions, and a milder solution, such as the one suggested by Lobinger or Thompson, at the evening treatment. After the most distressing symptoms have disappeared, if the urine remains alkaline, with a tendency to throw down phosphates, Harrison[1] recommends the use of 5 grains of citric acid to the pint of warm water. When the urine remains purulent Nunn[2] advises the use of quinin, 1 grain to the ounce of water, to which should be added 1 drop of nitric acid. In these cases I have used a 1-per-cent. solution of ichthyol with a good deal of benefit.

At the first blush it may appear that this method of treatment is fraught with danger to the ureters and kidneys. In my experience I have never observed any symptom that would point to this complication, and I believe that it is next to impossible to force fluid into the ureters or kidneys by irrigating the bladder from the meatus. I have experimented in the way suggested by Lewin and Goldschmidt,[3] and by Guyon and Courtade,[4] and never once have I been able to force the fluid into the ureters or kidneys from the meatus through the bladder.

The practice of instilling medicine into the bladder in the treatment of cystitis was introduced by Guyon of Paris who is a great advocate of this method of treatment. The solutions that are most used are nitrate of silver in the strength of from 1 to 15 per cent., and corrosive sublimate in the strength of 1 to 10,000 to 1 to 2000, from 15 to 60 drops being instilled at one sitting. The amount introduced is allowed to remain in the bladder from 15 to 30 minutes, when it is washed out with a mild antiseptic fluid. I have found that iodoform in sterilized oil is very efficient in the strength of 5 to 10 per cent. This method is especially recommended by Guyon for the treatment of tuberculosis of the bladder.

Surgeons for San Francisco.—On July 5th the War Department ordered eleven additional surgeons to report to General Shafter for duty in the new general hospital at the model camp in San Francisco.

[1] *Deutsche Med. Woch.*, No. 34, 1895.
[2] *Jour. Cut. and Gen.-Urin. Dis.*, February, 1892.

[1] "Twentieth Century Practice," Vol. I., p. 239.
[2] *Lancet*, February 23, 1898, p. 356.
[3] *Virchow's Archiv*, 1893, p. 33; 1898, p. 104.
[4] *An. des. Org. Gen.-Urin.*, March, 1897, p. 225.

CLINICAL MEMORANDUM.

A CASE OF PLACENTA PREVIA.[1]

BY CHARLES A. HELVIE, M.D.,
OF CRETE, NEB.

C. Q., aged twenty-two years, English, housewife, married, entered the maternity of the Erie County Hospital, Buffalo, N. Y., July 20, 1895, at 4.30 P.M.

Personal History.—She had never had any sickness. Menstruation always regular, four-weekly type. She was slight in figure and appeared anemic.

Family history.—Mother died of "brain fever."

Physical Examination on Admission.—Inspection: no abnormalities. Palpation: Foot presentation with head to left. Position transverse with dorsum in fundus.

Auscultation.—Fetal heart heard above umbilicus; frequency 160; regular.

Vaginal Examination.—Vagina roomy. Cervix effaced. No dilatation.

Mensuration.—Height above pubes of navel 13 cm., of fundus uteri 19 cm. Distance from ensiform to fundus 4 cm. Distance between spines, 22 cm. Between crests 26 cm. Conjugates, extremes 19 cm.

Urine.—No specimen obtained before labor began.

Labor.—Pains began at 7.30 P.M., three hours after admission.

First Examination after Beginning of Labor.—8.45 P.M. Dilatation complete. Bag of water intact and near vaginal orifice. Pains fair.

Second Examination.—10.00 P.M. Foot found presenting to anterior and nearly a finger's length from vaginal orifice. Pains same as before.

Third Examination.—11.15 P.M. Bag of water still intact but near vaginal orifice. Presenting foot half a finger's length in. Pains almost ceased for a time.

Fourth Examination.—12.30 A.M. Membranes intact. Fetal heart sounds not heard. No fetal movement detected.

There had been some hemorrhage all along, so that the napkins had to be changed frequently. After the third examination (11.15 P.M.) the hemorrhage increased markedly. During the examinations the patient always complained of pain, so that they could not be made as thorough as they should have been. At 1.00 A.M. it was decided to anesthetize the patient in order to make a more complete examination. Chloroform was used. The case was now found to be one of placenta previa. The placenta was high enough up to be beyond the reach of the examining fingers, until after the anesthetic was given. The edge of the placenta was then felt to the right, anteriorly. The membranes were ruptured artificially and rapid delivery begun. When the membranes were ruptured the cord was found to be prolapsed. Delivery was effected by traction on the feet and legs.

Birth at 1.30 A. M. Child was still-born, but vigorous efforts were made to resuscitate it. These were partially successful. The child died two hours after birth. It was well formed. Its weight was 3 lb. 11 oz. While I was working with the child, my colleague, Dr. Robinson, took charge of the mother.

Placenta expressed (Credé) at 1.32 A.M. Ergot, gtt. xxv, by hypodermic injection was then administered to the patient. The weight of the placenta was 10½ oz. It was of an oval shape, thin and soft. One edge was very dark colored and contained a blood-clot which occupied about one-fourth of the placenta. The surface was studded with white infarcts.

The cord was 65 cm. in length. Its insertion was marginal. It was small near the placental end and gradually enlarged toward the fetal end. Near the fetal extremity it was distorted by large venous dilatations and near the middle there was quite a large nodule of Wharton's jelly.

Immediately after delivery the patient went into collapse. Her head was quickly lowered, hot water-bottles were placed about her and vigorous massage of the extremities and uterus was kept up. Hypodermic injections of brandy were given about every fifteen minutes until five doses had been given. Strychnin sulphate, $\frac{1}{30}$ of a grain was also given hypodermically once every hour until three doses had been given. Inhalations of amyl nitrite were given at first, and later oxygen was administered until four gallons had been used. Several high enemas of hot salt solution were given and one enema of hot strong coffee. It was three hours from the time the collapse set in before the patient began to rally. At the end of this time the uterus began to show signs of contracting under the massage, and the patient complained of pain and nausea. A vaginal douche of hot mercuric bichlorid, 1 to 5000, was then given and the binder put on.

Her temperature at 8.45 P.M. was 99°, at 12.45 A.M., 98° and three and half hours after delivery 97.5° F. The pulse at this time was 120.

About eight hours after delivery the patient became restless, complained of pain in the abdomen and began to vomit. The vomiting continued for about thirty-six hours. Nothing seemed to relieve it. During this time hot milk ℥ viii was given per rectum, every six hours. The pain in the abdomen was relieved only by permitting the patient to lie upon her right side.

During the first twenty-four hours a small amount of urine was passed but urination was always accompanied by a bowel movement. Thus what urine was passed was so mixed with fecal matter that it could not be examined. At the end of the first twenty-four hours the patient was catheterized but no urine obtained. It was not until the fourth day that a specimen for examination could be obtained. This was by catheter and amounted only to ℥ iii. It was acid in reaction. The specific gravity was not obtained. The heat and nitric-acid test showed it to be almost solid with albumin. Urea, by the Doremus test, was .03. By the microscope there was shown epithelium, pus, bacteria, and urates. No casts were found.

The patient's condition became gradually worse and death ensued on the fifth day. During the last twenty-four hours she became comatose. Her breathing became stertorous and of the Cheyne-Stokes type. The skin became dry and harsh and minute crystals of urea

[1] Read before the Nebraska State Medical Society.

could be seen glistening upon it. With this condition there was present a very peculiar odor.

The cause of death was uremia consequent upon nephritis with almost complete suppression of urine. Whether this nephritis was ante-partum or acute post-partum it is not possible to say positively since no autopsy was made and there was no examination of the urine before labor set in. The previous anemic condition of the patient, together with the hemorrhage during labor, were factors which contributed largely to the disastrous result. The chloroform anesthesia may have been another factor of considerable importance.

I have said nothing of the treatment pursued in the case after the first signs of uremia. In passing I will state that the usual recognized methods of treatment were followed: hot baths and hot packs, hypodermic medication to sustain the strength and induce perspiration, and finally intravenous injections of normal salt solution.

What would have been the result in this case if the labor had been conducted differently? The question hinges upon a point in obstetrical teaching—spontaneous rupture of the membranes or their artificial rupture, early or late. For the most part I received my obstetrical training under the "immortal" Jaggard. One of his dogmas was that the bag of membranes, being a natural dilator not only of the os uteri but of the whole parturient canal, should be left alone and allowed to rupture spontaneously, unless there were some very positive indications for interference. Just here it may be urged that those indications were present in the continued hemorrhage. In reply to this it can be said that the hemorrhage, although continuous, was only slight, not so much as often accompanies the slight lacerations of the cervix in process of dilatation. There was no history of hemorrhages before labor. On account of the hypersensitive condition of the parturient canal and the apparent high position of the placenta the true state of affairs could not be determined until after complete anesthesia. It was not until then that the case was determined to be one of placenta previa.

One of my colleagues in the hospital, Dr. Mord, in accordance with the training that he had received, practised the rupture of the membranes as soon as the cervix was completely dilated. In this case, it has seemed to me, that if I had ruptured the membranes at 8.45 P.M., at the time when dilatation was found to be complete and only one hour after the beginning of labor, the final result would have been quite different; both mother and child might have been saved. The child probably would not have been asphyxiated. There would have been saved to the mother at least four hours when her strength was slowly ebbing away, while the subsequent uremia might have been averted.

I report this case not alone because of the extreme interest that it has had for me, but that it may serve to warn others to be on their guard for even the slightest danger signal.

I am well aware of the fact that the conduct of the case may be severely criticised. It was partially with the purpose of eliciting this criticism that I have presented it somewhat in detail.

MEDICAL PROGRESS.

Maternal Impressions.—OGLE (*Charlotte Med. Jour.*, May, 1899) and LANDAU (*Monats. f. Geburts. u. Gynäk.*, May, 1899) discuss the philosophy of this puzzling subject. Both cite numerous well-authenticated instances in which the birthmark or deformity of the child suggests more or less some fright or accident which occurred to the mother during her pregnancy. Both admit that it is difficult to explain the very widespread belief in maternal impressions which has existed from the earliest times in every country. Ogle says that it is hard to imagine how a mental impression of the mother can affect the development of a portion of the child, in the absence of any direct nerve connection between the two, but he apparently hesitates to set down as pure superstition or error of observation all the recorded cases of maternal impressions from Aristotle to the present time. Landau is more outspoken, for in the closing words of his article, he says, "I admit that it is striking that earnest thinkers of great power of observation, wide learning, and sharp intellect, bring forward certain cases which seem to uphold the primitive belief. Still, great men have made mistakes before now. Maternal impression is and remains a superstition, and despite Welsenburg's highly instructive work on the subject it has not become worthy of scientific recognition."

Radical Cure of "Slipped" Herniæ of the Large Intestine.—FROELICH (*Gaz. Heb. de Med. et de Chir.*, April 25, 1899) discusses the radical cure of those herniæ of the large intestine, either cecal or sigmoidal, which have "slipped" down behind the peritoneum, and are therefore partially or wholly without a peritoneal sac. This condition has been most perplexing to surgeons, and most operations on strangulated herniæ of this type have been followed by the death of the patient, while the operations done for radical cure when no strangulation existed, have been unsuccessful in curing the hernia. The author reports three such cases, in two of which attempts to separate the intestine together with the sac, from the tissues about the ring, in order to reduce the hernia *en masse*, were followed by fecal fistulæ. All three patients recovered, but without cure of the hernia. From a study of these and twenty-one published cases, Froelich concludes that in irreducible inguinal hernia one ought always to keep these "slipped" hernia in mind. The diagnostic points are the presence of fecal lumps, distention when gas is pumped into the rectum, a drawing feeling at stool, and often a diminution in the size of the hernia after evacuation of the bowels, and an irreducible hernia from the beginning. In regard to the treatment, it is advised to dissect sac and intestine posteriorly with the fingers high enough up to permit of the easy closure of the ring. Failing in this, the intestine should be resected. Even then one must not expect to obtain a radical cure, but the condition ought to be such that the hernia can be held in place by a truss. In strangulated herniæ of this type, the surgeon should remember that there may be loops of small intestine which

are also strangulated, and which must be freed and reduced if recovery is to be secured.

Error of Sex as a Ground for Divorce. — Neugebauer (*Centralbl. f. Gynäk.*, May 6, 1899) has collected reports of no less than fifty cases in which divorce has been granted on account of an error in the sex of one of the contracting parties. It seems incredible that such a mistake should occur so often, but the conformation of the genitals of some of these hermaphrodites was such as to deceive medical men who could not in some instances agree upon the sex of the individual, even after an examination. One remarkable case is recorded in which a male hermaphrodite had successively three husbands, and it was only after she, or rather he, had given a venereal disease to the third husband that the latter applied for a divorce. In forty-six out of the fifty recorded cases a man had married a male hermaphrodite. In one case the sex of the parties is not given, and in three instances women married female hermaphrodites. In one of these instances the supposed husband later became pregnant, and was delivered of a full-term child. There are numerous instances in which a matrimonial engagement has been broken on account of the discovery that the parties to the agreement were of the same sex.

Repeated Cæsarian Section. — Pollak (*Centralbl. f. Gynäk.*, April 15, 1899) looked up the literature of Cæsarian section and found that it had been performed a second time upon the same patient no less than thirty times. A still more remarkable fact is that in twelve cases it has been performed three times upon the same patient, the operation being twice concluded by the removal of the uterus. Four women have had Cæsarian section performed upon them four successive times, while one, a patient of Birnbaum, was five times subjected to this operation, this unique series of deliveries being terminated unfortunately by the death of the mother from pulmonary embolism. Pollak adds the details of a case in which Cæsarian section was three times performed. The last operation was done by himself, and a careful examination of the uterus showed that its wall at the sites of the previous incisions was as solid and as thick as at other places.

In this connection may be mentioned a case reported by Pryor in which Cæsarian section was successfully performed upon a woman whose abdomen had been opened five years previously for the removal of a large fibroid. At the time the uterus was opened, another fibroid was present, but it was decided not to remove the tumor. It grew so rapidly, however, that laparotomy had to be performed within three months, at which time the whole uterus was successfully removed.

THERAPEUTIC NOTES.

Treatment of Acute Rheumatism Prophylactic of Pericarditis.—Delearde (*La Presse Med.*, April 29, 1899) says that no other drug is so good as salicylate of soda to prevent pericarditic sequelæ after acute articular rheumatism. Three rules are to be observed, *viz.*, to give large initial doses of the salicylate, to give it at short intervals on account of its rapid elimination, and to keep up its administration for at least ten days after the disappearance of all pain. To adults he gives from 90 to 120 grains a day in the beginning of the attack, in divided doses, every three or four hours. After the disappearance of acute symptoms the dose is reduced so that the patient gets only 45 to 60 grains a day. The medicine is given either in capsules or in such a mixture as the following:

℞	Sodii salicylatis	ʒ jss
	Spiritus vini rectificati . . .	ʒ ijss
	Syr. ribis	ʒ x
	Aquæ destillatæ . . .	q. s. ad ℥ iij.

M. Sig. Take the whole in doses of a tablespoonful during the twenty-four hours.

Treatment of Impetigo Contagiosa.—The crusts are to be removed by repeated washings with warm water and soap (Stelwagon, "Keating's Cyclopedia," vol. v.) and an ointment of ammoniated mercury of the strength of from 10 to 20 grains to the ounce. In cases in which the itching is severe a lotion composed of a saturated solution of boric acid, containing ½ a dram of carbolic acid or resorcin to the pint, should be applied. This prevents innoculation of new points.

Treatment of Acute Dysentery.—Sodré ("Twentieth Century," vol. xvi) recommends in lieu of the large doses of infusion of ipecac often given the following:

℞	Pulv. ipecac.	gr. iss
	Pulv. opii	gr. ⅓
	Calomel	gr. ¾.

To be given in a capsule every two hours, or administer about fifteen minutes before the first dose of ipecac, 12 drops of a mixture containing menthol (gr. iii), tinct. opii (gr. ss), and Jamaica rum (ʒ v), and apply a mustard plaster to the epigastrium. If the ipecac is not tolerated saline cathartics should be given in small doses, often in alternation with the ipecac. The salines—sulphates of sodium or magnesium in doses of about 2 drams—are indicated when there is constipation, or small evacuations with much colic and tenesmus. Astringents—opium, bismuth, and salol—are useful, but must be given cautiously and alternated with the saline cathartics. Ulceration in the rectum and colon is to be treated by enemata, containing opium and bismuth. The following plan of treatment is very often satisfactory: Sulphate of soda (or magnesia) is given on the first day of the disease, and on the second, third, and fourth days, every three hours, a capsule containing:

	Magnesia	gr. iv
	Bismuth subnitrate . . .	gr. vi
	Pulv. ipecac	gr. i
	Pulv. opii	gr. ⅓.

For Acute Diarrhea.—

℞	Sodii bicarbonatis	ʒ i
	Spts. ammonii arom. . . .	ʒ iii
	Tinct. cardamomi comp. . . .	ʒ vi
	Aq. cinnamomi . .	q. s. ad. ℥ vi.

M. Sig. Two tablespoonfuls every two or three hours.—*Yeo.*

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SATURDAY, JULY 15, 1899.

THE TREATMENT OF SUMMER DIARRHEA IN INFANTS.

WE are glad to be able to present to our readers, just at the time when its very practical points may be of most service to them, Dr. Chapin's paper on this timely subject, with a detailed report of the discussion that followed it at the New York Academy of Medicine at its last meeting of the season. There is nothing that is absolutely new to be said on the subject, but the emphasis laid on certain points in the course of the discussion shows that physicians who have a very large experience in children's diseases are now definitely agreed as to the advisability of certain measures that have been more or less in doubt though every year growing more and more into the practice of the profession.

The theory that children should not be given carbohydrates because they secrete no diastasic ferment to digest them is now definitely abandoned and two distinct advantages are claimed for the mixture of carbohydrates with baby's milk. First, there is the mechanical separation of the particles of the coagulated milk which prevents its coagulation in thick solid masses incapable of penetration and digestion by the stomach juices; and second, certain antiputrefactive action is claimed for carbohydrates. Their fermentation which used to be so much dreaded or at least railed about, it is now urged, causes the liberation of free acids and these prevent the growth of intestinal bacteria which especially luxuriate in an alkaline medium. When cow's milk is used, then, in the feeding of infants in the summer time especially, its dilution with barley-water or some other cereal solution is considered much more to be preferred to its dilution with plain water.

As to treatment all the specialists in children's diseases insist on the stoppage of all feeding just as soon as diarrhea asserts itself in the hot weather. There is great danger in delaying the institution of this radical measure while an over-anxiety that would stop the administration of milk, and so perhaps anticipate the necessity for absolute gastro-intestinal rest by a few hours, can do very little if any harm. A single attack of vomiting in a child whose stools are more frequent and watery than normal must be the signal for the withdrawal of all milk from the dietary if the physician would not neglect his plain duty as outlined by the best recent experience.

As to drugs, not much can be said. All authorities are agreed that opium must not be used, in the hope to control by its help the number of stools. It must never form part of the diarrhea mixture itself of which the main ingredient should be one of the salts of bismuth; it must not be administered until after stomach and intestines have been relieved by purgation, lavage, and high injections of any toxic material that is present. It must be employed only when there are direct indications for it, *i. e.*, only when there is exhausting restlessness or tenesmus and pain. For the restlessness it has been pointed out that hydrotherapy forms an excellent substitute for opium and one that carries with it none of the dangers of the rather treacherous drug. Whenever the temperature of the little patient is above 102.5° F. for any length of time it should be placed in a bath somewhat above 90°, which should be rapidly lowered to about 80°, not lower. As a rule not more than a very few minutes will be necessary, but the bath may be continued for ten minutes, a cold cloth

being kept on the child's head. For tenesmus the local use of opium per rectum is most advisable, 2 or 3 drops of the tincture in a tablespoonful of starch water relieving the pain, decreasing the fruitless efforts at stool, and avoiding most of the deleterious effects of the drug on the general system.

Abroad, of very late years a good deal has been said of the value of tannigen in controlling the stools. Dr. Blackader of Montreal, in the March number of "Progressive Medicine" in an excellent review of the recent literature on summer diarrheas, quotes no less an authority than Escherich, the well-known Professor of Children's Diseases at the University of Graz in Austria, who speaks very favorably of tannigen and claims for it a distinct disinfectant and bactericidal effect. Kraus and Biedert have also written in its praise, especially for chronic intestinal catarrh. It is a tasteless powder, therefore easily administered and is given in doses of 2 to 5 grains four times a day. It is especially useful in cases of follicular enteritis, where local measures are of little avail. Its administration is continued in lessened doses after the acute symptoms have subsided and it is said to hasten convalescence, which is often apt to be tedious.

Stimulants used early in the case, though sparingly until marked signs of prostration assert themselves, are growing in favor. Recent reliable physiological observations, notably Atwater's work, seem to confirm an old view with regard to alcohol, that it is oxidized in the body and does replace food material to a very appreciable extent. When all milk feeding is stopped it undoubtedly serves to keep up the child's strength. Bouillon has been recommended for the same purpose. Meat-products generally, while acting as effective nutrients do not seem to furnish the favorable culture-medium for micro-organisms that milk does.

For the severe states of depression that develop in the serious cases of diarrhea the subcutaneous injection of normal salt solution has sometimes given excellent results. Very often these cases are hopeless. The paralysis of cellular activity has been too great to permit reaction. The normal salt solution seems, however, in many cases to dilute the toxins in the circulation and arouse conservative processes that make for resistive vitality. In an infant an ounce of the solution may be injected into the thigh or back by means of a hypodermic needle or an ordinary Davidson syringe and will often be followed by a most favorable reaction. The injections may be repeated about three times a day. Even in what seems hopeless collapse the effect is often according to French writers almost marvelous.

RECENT EPIDEMICS OF CEREBROSPINAL MENINGITIS.

There is still much to be learned about epidemic cerebrospinal meningitis, and Europe looks to America for this information, as the disease is rarer in the Old World than in the new. Class, a member of the Health Department of Chicago, made a special study of the cases occurring in the recent epidemic in that city, and gives in the *Journal of the American Medical Association*, a summary of the histories of thirty-eight patients. The mortality of these patients was 65 per cent.; but he believes that a complete record of all the cases which occurred in the city during the epidemic would show a much lower mortality, since the thirty-eight reported by him were chiefly those of hospital practice.

Since those in attendance upon the sick almost never take the disease, and since an epidemic does not spread by contiguity as does smallpox or yellow fever for instance, the contagiousness of the disease has been generally denied. There are, however, instances in which several members of one household are victims, a number of such being seen in the Chicago epidemic, and the majority of all the cases occurred in a territory of about one square mile. Class believes that the disease is contagious like phthisis, which would explain its spread geographically in congested districts inhabited by persons of careless habits, and the lack of a similar spread among the intelligent and well-to-do. Several pathologists have shown that the germ exists in the buccal and nasal mucus. As the germ is short-lived, it is easily understood why a family moving into rooms previously occupied by a patient, probably would not contract the disease. An examination of the dwellings inhabited by those who fell ill during this epidemic showed that many of them were in a very bad sanitary condition. The records of previous epidemics in other places are in accord with this statement. Hence, Class advocates the isolation of patients and the disinfection of their

evacuations, the correction of sanitary defects, and the notification of the sanitary authorities. Nothing new was brought out in the way of treatment. The writer mentions that difficulty in swallowing was observed in six cases each of which terminated fatally.

Two other recent epidemics of this disease are reported. One was in the vicinity of Morganstown, Kentucky, where fourteen patients, almost all of them males, died in from one to eleven days, (only two lived more than three days) while two were in critical condition at the time of report, and three or four others had recovered after a slight illness, the diagnosis of meningits in their case being doubtful. The other epidemic was in the vicinity of Henderson, Kentucky. Quinn, who reports the latter, estimated that one hundred persons were attacked, of whom about seventy-five died. In the midst of this epidemic, not a doctor or nurse suffered; but in adjoining counties where there were only a few cases, two doctors lost their lives from the disease.

NEW INSTRUMENTS AND THE "DICHOTOMOUS" METHOD IN MEDICAL ADVERTISING.

A DISTINGUISHED French surgeon, not long deceased, is said to have owed not a little of the very large and lucrative practice that he enjoyed to his uncompromising belief in the practical application of the botanical principle of dichotomy, equal division, in the matter of consultation cases. His facetious countrymen have taken the word which is applied by botanists to plants that multiply by division and applied it to medical men whose monetary accretions follow a similar law. They call them dichotomous, and have thereby enriched medical literature and language with a very expressive term.

It is not unusual to have this system of "divvying up" referred to abroad as typically American. That it is not exclusively so the little legend we have just related and the very apt appropriate term the French have invented for what is evidently not an isolated incident, seem to show. A circular that has been going the rounds of doctors' offices here in New York, and very probably elsewhere in the country, indicates that there are other countries in Europe outside of France where the principle of division of the spoils is not unknown. At least it is scarcely to be supposed that the very promising system of division suggested in the circular sprang fully panoplied for the American campaign from the fertile brain of the American agents.

The circular in question which smacks somewhat of its foreign origin in the construction of its phrases offers to physicians a goodly share of the spoils ($25 to $50) for every patient that on the physician's recommendation adopts the company's inventions for the removal of impotence. These inventions have the approval of high authorities abroad (names given), and cost $150 to $200. There have been grave doubts expressed abroad as to the advisability of the use of such methods, except in selected cases under extraordinary circumstances, but with that we are not concerned. The method adopted for introducing the instruments deserves the severest censure and should keep physicians, who value their reputations for honorable dealing with their patients, from advising them until such methods are abandoned.

Manufacturers and agents must be taught the lesson that what is gained by these objectionable advertising methods with certain classes of the profession injure them so much with the great body of self-respecting medical men that their use does not pay in the end. Only this practical commercial argument will reach such people. The methods in question are unfortunately becoming contagious in various trades connected with medicine, and this last extravagant manifestation should receive a severe rebuke.

MEDICAL MATTERS IN NEW YORK.

OPTICIANS AND PHYSICIANS—A ROBBER OF DOCTORS' OFFICES CAUGHT—ST. JOHN'S GUILD — FATAL ERROR IN DIAGNOSIS—THE HIGH-PRESSURE SYSTEM IN NEW YORK SCHOOLS—TENEMENT-HOUSE REFORM—YELLOW FEVER IN NEW YORK HARBOR.

THE New York State Optical Society, at its meeting at the Fifth Avenue Hotel on June 27th, adopted a resolution deploring the action of certain medical societies of other States in endeavoring to disrupt the hitherto cordial relations which have existed between physicians and opticians.

In arresting one George Freeman the Brooklyn police seem to have caught an old offender, whose particular "lay" has been to call and ask for "the doctor" in his absence, be received in the waiting-room, and then to quickly disappear a few minutes after being left alone with whatever property he could conveniently carry off. On one occasion Freeman was seen by the doctor's

servant to leave the house with a bundle. She ran after him, and accused him of theft. He then handed her two coats and an umbrella belonging to her employer, said he had made a mistake, and hurried away.

The "Helen C. Juilliard," the new floating hospital of St. John's Guild, made its initial trip on July 6th. This boat has accommodation for 1900 persons. Her most conspicuous feature from a hygienic point of view is the bath-rooms, in which forty-one people can take salt-water spray baths simultaneously. Patients who are found to need longer treatment than can be given in a day's outing on the boat are carried to the Seaside Hospital of the Guild, at New Dorp, Staten Island. This establishment is governed by a board of ten New York and two resident physicians.

A few days since a man was stabbed in the abdomen during a quarrel. His assailant had used a pocket-knife. The wounded man went to a hospital near by, where his wound was examined. The surgeon considered it only a superficial wound, dressed it, and sent the man home. That night symptoms of peritonitis developed, and next day the wounded man was taken to Bellevue, where it was discovered that the abdomen had been penetrated. The man died.

Dr. W. Gill Wylie, chairman of the Medical Board of the Board of Education, has begun an agitation for a reform of the present school system as it applies to girls. He considers that girls between the ages of eleven and sixteen are required to do too much work. A point gained thus far is that the age now fixed for admission to the Normal School is fifteen, instead of fourteen, as it used to be. Dr. Wylie says: "The danger resulting from the amount of study required at present is not to the life of the girl, but, coming as it does in the formative period of a girl's life, the evil effects are bound to be manifest in her children."

The tenement-house committee of the Charity Organization Society has prepared a series of ordinances relating to tenement-house construction, and has presented them, in a report, to the Municipal Building Commission. It was observed that New York City's tenements are a disgrace to the city and the State, that dangerous and unsanitary conditions are allowed to prevail in them, and that these conditions are growing steadily worse year by year. One of the suggested ordinances is aimed at the dark, narrow, and unventilated air-shaft, and the resulting dark, damp, and unventilated rooms that open upon it, and provides that the shafts shall not be less than six feet wide in any part and have not less than 150 square feet in superficial area. Other provisions are that no tenement shall be more than six stories high, that living rooms shall each have 600 cubic feet of air space, that there shall be at least one bath-room for every twenty families in every tenement, and that the walls of tenements shall be carried three and one-half feet above the roof, so that the roof may be used as a playground.

The Government Transport "McClellan" from Santiago, Cuba, arrived at quarantine, July 6th, with two well-developed cases of yellow fever and two suspicious cases on board. The suspects did not develop the disease, and have been discharged. One of the persons in whom the disease developed was Miss L. C. Clendenin, daughter of Surgeon-Major Clendenin, who died of yellow fever at Santiago the day following the departure of the "McClellan." The attack is mild in her case and she is being cared for at the quarantine hospital. The other case proved more serious and the patient submitted to treatment with the serum developed by Dr. Doty, Health Officer of the port. This serum is produced from the Sanarelli bacillus by injecting cultures directly into the veins of a horse. By this process Dr. Doty believes that a stronger antitoxin is developed than by the subcutaneous method. He has despatched Dr. Bernard E. Baker of Charleston, South Carolina, with a supply of serum to Vera Cruz, Mexico, to give the remedy a prompt and thorough test. The epidemic of yellow fever which is raging there will enable him to use it in the early stage of the disease when it should be the most efficacious. To Mr. Lackey, the patient in the quarantine hospital, a subcutaneous injection of the serum was given at eleven o'clock, two o'clock, and seven o'clock. During this time the patient's temperature fell two degrees and his general symptoms improved.

ECHOES AND NEWS.

Vienna Losing Its Lead as a Medical Center.—In the winter semester there were 1382 medical matriculants at Vienna, 1341 at Munich, and 1311 at Berlin. Wurzburg stands next in the list with 713, while the once popular Heidelberg had only 240.

A Beer Tablet.—The latest reported German invention is a "beer tablet." The beverage is dried and compressed, and when water is added to the tablet, carbonic acid gas is formed, so that a foaming beaker is produced, as good, it is said, as if it were freshly drawn from the barrel. It is non-alcoholic of course.

A Congress of Deaf-Mutes.—A committee of the leading deaf-mutes of Paris is making arrangements for an international congress at the Exposition in 1900 and has asked the four following Americans to act as a sub-committee: The Rev. A. W. Mann of the Central Western Deaf-Mute Mission of Gambier, Ohio, the Rev. J. M. Koehler, rector of All Soul's Church, Philadelphia, Professor T. F. Fox of the Fanwood Institution, Washington Heights, and E. A. Hodson, editor of *The Deaf-Mutes' Journal.*

Medicine's New Field.—Professor Charles Sedgwick Minot of the Harvard Medical School delivered the annual address to the Yale Medical seniors on June 27th. He said: "We are brought to the conclusion that though the primary functions of our medical schools is to educate practitioners of medicine, yet they ought to assume now the further and higher function of training medical investigators. The requirements of comparative medicine call for more changes than we have yet mentioned. The very word comparative implies that animals shall be included in the study."

Koplik's Spots in Prague.—Dr. Ludwig Knospel, the assistant of Professor Ganghofner in the clinic for children's diseases at the German University of Prague, has followed carefully all the numerous cases of measles that came to the clinic and has found Koplik's spots of the greatest value for the early diagnosis of the disease. He reports that he has noticed the red spots with bluish-white punctations on the mucous membrane of the cheeks and lips from three to five days before the appearance of the usual eruptions of measles. (*Schmidt's Jahrbucher* for June, from the *Prager Medicinische Wochenschrift.*)

Decreased Death-Rate.—The mortality bulletin of the New York State Board of Health for the month of May says that the number of deaths reported was 9556, or just the average for the ten years past. It is 200 less than that of May, 1898, and 850 less than that of the preceding month, the average daily mortality having been reduced from 346 to 308. For the preceding four months the average daily mortality was 370. The death-rate is reduced from 17.75 to 16.00. The decrease from last month is in acute respiratory diseases, from which there were 500 fewer deaths, and other local diseases caused 300 fewer deaths.

Report of Plague at Paris Denied.—The rumors that there have been deaths from the plague in Paris have been so persistently circulated that the matter was brought before the Academy of Medicine for investigation. The Academy has determined that the rumors were absolutely without foundation, other than an anonymous letter written to an official of the goverment, stating that five employees of the large department-store, Bon Marché, had died from plague contracted from handling rugs. The police at once took the matter up, and ascertained that there had been no deaths among the employees nor any cases of severe illness. The sanitary conditions in the store were found to be as nearly perfect as possible.

The Progress of the Plague.—Reports from Japan announce that the plague still remains limited to the island of Formosa. At Bombay, Calcutta, and other towns in the Bombay Presidency, the disease seems to be declining. At Alexandria, Egypt, the total number of cases occurring previous to June 16th was thirty-two, with ten deaths. Eight of these were of Europeans. A quarantine of six-days' detention has been declared at Naples on all ships having touched at Egyptian ports, and the importation of goods from all infected countries has been practically stopped. Turkey has established a ten-days' quarantine against vessels from Egyptian ports, Greece eleven-days' quarantine, and Malta two-day's quarantine. No further news has been received regarding the appearance of the plague at San Francisco.

Epidemic of Diphtheria in the State Hospital for the Insane at Willard.—Diphtheria was reported July 5th as epidemic among the 2300 patients and 600 employees at the State Hospital for the Insane at Willard, near Geneva, N. Y. The hospital has been placed under a rigid quarantine. There are now seventeen cases at the institution. It first appeared at the institution about a month ago, but the patients were quickly isolated. They recovered, and it was believed the disease had been stamped out. There was a further outbreak last week, and it is this which has alarmed the authorities. The disease is of a very mild type, and attacks the younger persons. Of the seventeen now under treatment fourteen are employees. The disease is being kept under control by the free use of antitoxin and no deaths have thus far been reported.

The Study of Cancer at the Buffalo Laboratory.—The careful investigations into the etiology of cancer being carried on at the State expense at the Buffalo (New York) Laboratory are attracting attention abroad. It is reported that the British Cancer Society of London has appointed Dr. A. L. E. Duffy to investigate the work being done at Buffalo and collect data bearing upon the spread of the disease in the United States. As intimated by Dr. Roswell Park in his article published in the MEDICAL NEWS April 1, 1899, the investigations at the Buffalo Laboratory point strongly toward confirmation of the germ theory of the disease. On the other hand Dr. Lambert Lack of London has recently reiterated positively his belief, founded on late investigation, in the old theory that cancer is originally a local disease due to a specific injury to the basement membrane of mucous surfaces and allied structures. He also announces the discovery of a prophylactic and curative serum.

Experiments in the Eradication of Malaria.—Major Donald Ross, I.M.S., well known for his researches on the connection between the mosquito and malaria, will head a deputation of observers from the new tropical medicine department of University College, Liverpool, which will go to Sierra Leone in August. They will be in Africa during the period of greatest prevalence of malaria and when the conditions are most favorable for observations on the disease and especially as to the means by which it is spread. Major Ross considers that he will be able to demonstrate to the members of the expedition the truth of his theory that malaria is carried about by a certain species of mosquitoes and is directly caused by their bites. The special purpose of the expedition will be to determine what species of mosquitoes are malaria-bearers in a given region and then having found their haunts in swamps or ponds to cover them up and see if they will not be able to prevent in this way the further distribution of the disease. As this is the first practical attempt of this kind for the eradication of malaria, the outcome will be watched with great interest by the whole of the medical world.

The British Medical Association.—The sixty-seventh annual meeting will be held at Portsmouth August, 1, 2, 3, and 4, 1899. The president-elect is Dr. John Ward Cousins. The following are the subjects announced for discussion in the several sections: "The Medical Tests Required at Present for Admission to the Public Services," "The Prevention and Remedial Treatment of Tuberculosis." Surgery: "The Diagnosis and Treatment of

Gunshot Wounds of the Abdomen," "The Prevention and Treatment of Syphilis in the Navy and Army.' Obstetrics and Gynecology: "The Treatment of Fever Following Delivery, with Special Reference to Serumtherapy," "The Natural Menopause Compared with (*a*) the Menopause Produced by Removal of the Uterine Appendages, and, (*b*) the Menopause Produced by Removal of the Uterus without Removal of the Appendages." Tropical Diseases: "Psilosis or Sprue; Its Relations (Etiological and Pathological) to Other Forms of Tropical Diarrhea, and Its Treatment," "On Thermic Fever (so-called Siriasis), with Special Reference to Its Alleged Microbic Causation," "The Agency of Insects in Spreading Infections."

Yellow Fever in Cuba.—Since July 4th, the date of our last report, yellow fever has continued to claim its victims among the members of the various garrisons. At Santiago Surgeon-Major Clendenin has died of the disease, also Chief Commissary-Major Heatwole and Signal Officer McLaughlin. At Manzanillo two new cases were reported July 7th, and on the same date two deaths from the disease at Puerto Principe. At Santiago the troops have been placed in camps on the hills and are frequently moved; most careful hygienic and sanitary precautions have been instituted. Elevation seems to have little effect upon the disease. Regarding the appearance of yellow fever in the hills, General Brooke has telegraphed as follows to the War Department: "In 1868-1878 Board of Health, Santiago, reported yellow fever 1000 feet above sea-level; in Mexico, Cordova, 2962, at Las Aurinas, 3308. New Castle, Jamaica, 4200 feet, has been visited several times, and several places in Peruvian Andes, 4000 feet, have been afflicted with it. Everything is being done that can be to control the disease." Commenting on this fresh outbreak in Cuba, General Sternberg says that it was not unexpected by the War Department. "Cuba is an infected island and this is the yellow-fever period."

Medical Officers Selected for the Philippines.—The President has completed the selection of the medical officers to serve with the regiments of volunteer infantry to be organized for service in the Philippines. These appointments, together with the former service of the appointees, are as follows: *Surgeons, with Rank of Major.*—Ogden Rafferty, Captain and Assistant Surgeon, United States Army, late Brigade Surgeon Volunteers; Charles P. Mason, Captain and Assistant Surgeon, United States Army, late Brigade Surgeon Volunteers; John R. McDill, late Brigade Surgeon Volunteers, now Acting Assistant Surgeon, United States Army; Frank C. Armstrong, late Surgeon Twenty-first Kansas Volunteers; Thomas W. Chalmers, late Surgeon Twelfth New York Volunteers; Charles L. G. Anderson, late Assistant Surgeon, United States Army, now Acting Assistant Surgeon, United States Army; D. Albert Lieberman, late Surgeon Sixth Missouri Volunteers; Joseph N. Henry, late Surgeon Fourth United States Volunteer Infantry. *Assistant Surgeons, with Rank of Captain.*—John R. Hereford, late Surgeon First Missouri Volunteers; James C. Miner, late Surgeon First Arkansas Volunteers; Frank W. Foxworthy, late Assistant Surgeon One Hundred and Sixtieth Indiana Volunteers; Abram L. Haines, late Surgeon Two Hundred and Third New York Volunteers; James J. Erwin, late Assistant Surgeon Tenth Ohio Volunteers; W. E. Parker, late Acting Assistant Surgeon, United States Army; James E. Shellenberger, late Surgeon Third Ohio Volunteers. *Assistant Surgeons, with Rank of First Lieutenant.*—William H. Cook, Acting Assistant Surgeon, United States Army; Lomax S. Anderson, late Assistant Surgeon Fifth United States Volunteer Infantry; Leonard K. Graves, late Assistant Surgeon Two Hundred and First New York Volunteers; Ralph S. Porter, late Assistant Surgeon Second Illinois Volunteers; John A. Metzger, Acting Assistant Surgeon, United States Army; Patrick J. McKenna, late Assistant Surgeon Second United States Engineers; Albert H. Aber, late Assistant Surgeon Thirty-fifth Michigan Volunteers; John E. Boyd, late Captain Second South Carolina Volunteers.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

LEGAL STEPS TO BE TAKEN AGAINST THE CHRISTIAN SCIENTISTS—INJURIES DUE TO THE FOURTH OF JULY—STATE BOARD EXAMINATIONS—CHILDREN'S HOSPITAL—PERSONAL—HEALTH NOTES.

PHILADELPHIA, July 10, 1899.

IT is an encouraging sign of the times to note that in both New York City and Philadelphia popular feeling against Christian-Science "healers" has been aroused to such a point of antagonism by the recent manipulations of this sect, that in the near future radical legal measures will probably be enacted to wholly suppress this menace to health and life. The half-dozen deaths which have occurred during the past three weeks, in different parts of this country, as the result of Christian-Science "treatment," have opened the eyes of the public to the enormity of this delusion, and have stimulated the medical profession to definite action along legal lines to suppress the evil. The lay press is doing a good work, at least here in the East, in exposing the fraudulent methods employed by these parasites of Christian profession, and the more the public learns of their widespread rascality just so much easier it will be to secure legislative support for laws aimed at the abolition of the practice of the Christian-Science fad. But the educational aid of the newspapers must be augmented by prompt and vigorous action by representative medical organizations before successful litigation may be hoped for. County, State, and national societies must take action singly and with combined forces. In Pennsylvania the laws of the Commonwealth seem to be adequate to justify immediate prosecutions, but in order to make haste slowly and to make sure of no unexpected abortion of plans, Dr. Henry Beates, in his official capacity as president of the State

Board of Medical Examiners, before taking legal steps in the matter, has requested the Attorney-General of the State to render an opinion as to the precise legal interpretation of the act for the regulation of medical practice as applied to Christian Scientists.

If, in the opinion of the Attorney-General, this sect may with impunity continue to evade the spirit of the law, although keeping strictly within the letter, another law will be agitated to absolutely prohibit their practices; if, on the other hand, his opinion is adverse to the Christian Scientists, immediate steps will be taken, both by civil injunction and by criminal prosecution. Dr. Beates' initiatory steps in this matter are being watched with a good deal of interest by the medical profession, and it is hoped that at last the exact status of Christian Science will be determined, and that drastic measures may be confidently resorted to for its suppression.

Philadelphia's contribution of accidents due to the prevailing manner of celebrating the Fourth of July places her high up in the list of cities where patriotism seems to be measured by maiming and wounding and loss of life. Three hundred accident cases, caused by fireworks, were treated by the city hospitals on the Fourth, not to speak of the many other unreported cases, cared for at the homes of the celebrators, by private practitioners. Of course the Mayor issued a special proclamation prohibiting fireworks, but as long as his edict is not enforced by the police, but rather regarded with supreme contempt by authorities and public alike, these needless casualties on the Fourth will continue. In every part of the city preventable suffering occurred, not only among the would-be patriots, but indirectly among the bed-ridden and nervous and sick in houses. Altogether, the Fourth of July nowadays has degenerated into a primeval orgie of noise, incendiarism and slaughter.

At the recent State Board examinations for licenses to practise medicine in Pennsylvania, all the candidates of the Eclectic school, ten in number, qualified, while ten out of the forty-one candidates appearing before the Homeopathic Board failed, and must be reexamined next November, to obtain the necessary permission to practise. The returns of the regular examiners have not yet been completed.

A roof-garden has just been given to the Children's Hospital by the president of the institution, Dr. T. W. Wilson, as a memorial to his sister, Mrs. Elizabeth Lewis. The new structure will afford fresh, cool air for the patients independent of the condition of the weather, and has been erected at a cost of $5000.

The total number of deaths in Philadelphia during the present week was 435, an increase of 15 over those of last week. Of the whole number of deaths, 189 occurred in children under five years of age. The returns of infectious diseases show 53 new cases of enteric fever, with 9 deaths; 50 new cases of diphtheria, with 11 deaths; 36 new cases of scarlet fever, with 1 death; and 4 new cases of cerebrospinal meningitis, with 3 deaths. The smallpox outbreak seems to have been entirely eradicated, no new cases having been reported here during the past seven days.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LAWSON TAIT'S CAVE-BURIAL; CAUSE OF HIS DEATH; OTHER TRAITS—PROFESSOR SCHAEFER'S ELECTION AND LONDON'S LOSSES — MEDICAL REPRESENTATION IN THE SENATE AT LONDON UNIVERSITY—BRUSSELS MEDICAL GRADUATES IN LONDON—OSLER'S LECTURE — POLYCLINIC DINNER — THE "LANCET'S" APPRECIATION OF AMERICAN MEDICINE.

LONDON, July 3, 1899.

THAT great surgical genius, Lawson Tait, seems to have been determined to remain as eccentric in death as in life. A brief clause in his will directed that his body should be cremated and the urn containing his ashes placed in a niche in a beautiful cave in the grounds of his country-house in Wales, known as Gogarth Cave. Over the niche a simple slab is to be placed, bearing nothing but his name and age, and a short inscription to the effect that his life had been devoted to the attempt to save the medical profession from the shameful folly of animal experimentation and the delusion that the results so obtained were of any value in human medicine. It is extraordinary how many really great men seem to prefer to be remembered by their weaknesses, or even their follies, instead of by their real masterpieces. To think of a genius emblazoning upon his tombstone only the deeds for which he needs forgiveness—and oblivion! His other directions though equally unique, had a simple dignity about them which commands our respect and sympathy. No public gathering was to be held at his interment, or ceremonial of any kind, religious or otherwise, in fact only the members of his family were to know the date at which it occurred. These were observed to the letter. His body was taken to Liverpool by his brother-in-law and two executors, cremated, and the urn delivered to his widow, who, there being no issue, will alone and unaccompanied place it in the grotto, after such an interval as she judges best.

The cause of his death was renal calculus, probably causing a rupture of the ureter, as death came within twelve hours of the first symptom of trouble. He had had several attacks of renal colic, and two years ago an operation had been performed for the removal of a calculus from the urethra, so that, as his will clearly shows, the great surgeon was fully aware that serious complications might develop at any moment.

From his student days in his native Edinburgh to the very week of his death Lawson Tait loved fighting for its own sake, and when the "fog uv fightin'" was on him was perfectly reckless who or what he attacked, so that there was no need for him to study the gentle art of making enemies; they rose in swarms on every hand, but nearly all of them gave him credit for sincerity, bravery, and a remarkable dexterity with his weapons. And some of his most slashing attacks, as for instance, that upon the over-theoretical and over-scientific tendencies in modern medical education, with regrets for the departure of the old apprenticeship system, when at an association meeting at Birmingham, he advised his surgical brethren not to waste their time in the surgical exhibit but to ob-

serve and endeavor to imitate the dexterity of the Brummagem button-cutter, had a great deal of wholesome truth under their ferocity.

The chair of physiology in the University of Edinburgh has at last been filled by the election of Professor Schäfer of University College, London. This selection will meet with the unanimous approval of the entire medical profession, and considerable relief is expressed here as it was feared that the delay was due to some feeling in the board of electors in favor of a local candidate. It is, however, a far from creditable comment upon the absence of public spirit and the hand-to-mouth condition of affairs in both medical and university education in London that the metropolis of the world has lost within the past three months her leading pathologist, one of her best-known biologists, and her only distinguished physiologist to little Cambridge and poverty-stricken Edinburgh, simply because she is too stingy to pay them a decent salary. There is scarcely a chair of anatomy or physiology in London which has a respectable living attached to it. Most of them are in the antediluvian position of mere stepping-stones to surgery and practice of medicine. Only a week ago the "promotion" of a man who had begun to win a wide reputation as a scientific anatomist to the assistant lectureship in surgery was announced in the journals. That means, of course, the end of his prospects as a scientist, and the beginning of his degeneration into a mere operative-surgeon.

The composition of the senate of the proposed University of London has just been announced. Of its members 12 are to represent science, 10 the arts and literature, 6 medicine, while music, law, and theology have one each. Perhaps this may furnish at least the really great and adequately supported medical school which is so badly needed, but so intense is the conservatism, and so innumerable the petty jealousies and bickerings with which the scheme has to contend at every step, that it will be a matter of years or even decades before any actual teaching can be hoped for from it.

The annual dinner of the Brussels Medical Graduates' Association is announced for July 5th. It might at first sight appear strange that there should be a sufficient number of Belgian graduates in London to form an association, but the clue to the mystery is that the English degree of M.D. is so expensive and so outrageously difficult to procure that a large number of medical men go over to Brussels, where the coveted degree can be obtained by one-year's residence and study. There is a strong and growing desire here to resort to American medical colleges for this purpose.

The General Medical Council has published a brief but complete and continuous story of the Hunter persecution, in which it magnanimously forgives its victim and admits that its Penal committee may have been a trifle overzealous, but that nobody in particular was to blame, except, perhaps, poor Hunter himself, in placing his sign door-plate where the committee could see it when it happened to have its "fighting-socks" on.

The inaugural dinner of the London Polyclinic was a great success. Nearly 300 guests were present, representing the flower of English medicine, and the treasurer was able to announce at the close that the funds of the institution had reached the sum of nearly $25,000 and that some 200 students and attenders had enrolled themselves for the first term. Sir John Lubbock was in the chair and speeches were made by Sir. William Broadbent, Sir Joseph Fayrer, Mr. Jonathan Hutchinson, Dr. William Ord, and others.

The event of the week attracting the widest interest was the Cavendish Lecture of Professor Osler of Baltimore, before the West London Medical Society. An audience of nearly 400 physicians attended and the lecture was published in full in the current number of both the *Lancet* and the *British Medical Journal*. A curious little incident occurred during the proposal of the customary vote of thanks, which much amused the Americans present. The mover of the vote was enumerating the various grounds for welcoming Dr. Osler, and claimed him first as a Canadian and fellow-subject of the Empire, which evoked a mild ripple of applause, then as a representative of "our brethren across the Atlantic, the great American medical profession," and the speaker had to wait until the applause subsided before he could go on.

The *Lancet* devotes a long editorial to a critical commendation of Dr. Wilson's address at Columbus. It regards his estimate of the achievements of American medicine both just and moderate, scores deservedly a certain class of our journals, and cordially endorses his proposal to appoint a Minister of Public Health.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

A FAMILY WITH CYSTINURIA—APPENDICITIS "LARVATA" — DIFFERENCE BETWEEN EPIDEMIC AND SPORADIC CASES OF CEREBROSPINAL MENINGITIS—MISTAKES IN DIAGNOSIS AFTER RUPTURE OF THE GALL-BLADDER—ENDOVESICAL PHOTOGRAPHS.

AT the Berlin Medical Society, May 10, 1899, COHN described a case of cystin calculus of the bladder which occurred in an eight-year-old girl. The stone was removed suprapubically and the child recovered. The interesting feature of this case was the fact that the mother of the child and five other children also at various times passed urine containing cystin, while the father and two grown sons always passed urine which was free from it. The occurrence of cystin in the urine of several members of one family was noted many years ago, but no such remarkable coincidence as this one has before been reported.

May 17th EWALD spoke of a type of appendicitis which he designated by the name "larvata." The symptoms are those of disturbed intestinal action with blood and mucus in the stools, and also loss of appetite and indigestion. The trouble goes on for years, sometimes better and sometimes worse, and usually the diagnosis is not made for a long time. When questioned the patient will admit having had a good deal of pain in the region of the appendix and ascending colon, and upon operation

these structures will be found to be much thickened. It has been suggested that the sudden improvement which follows an operation of this character does good by suggestion. Ewald was sure that this was not the true explanation in his own experience, for three reasons: All his patients so operated upon were not hysterical. They may have been nervous on account of the long-continued, painful attacks, but not hysterical. In the second place the suggestive effects of an operation, though they may be immediate and striking, wear off after a while and the old symptoms return. This was not true of his patients as some of them had remained well for over five years. But the strangest proof of all, that the effects of operation were not suggestive, is that patients who had painful symptoms due to disorders of the stomach or intestine continued to have the same symptoms after those referable to the appendix had disappeared.

SENATOR objected to the use of the term *larvata* in this connection. The cases of appendicitis to which the speaker had referred were not larvated in the sense that malaria may be, and nothing was to be gained by calling them so. They were, properly speaking, cases of appendicitis in which diagnosis was difficult.

At the Union for Internal Medicine, May 15th, STADELMANN spoke of the difference between epidemic and sporadic cases of cerebrospinal meningitis, having recently treated a case of the latter with success. The patient was a young man, and although at one time he was comatose, with Cheyne–Stokes respiration, and a thready pulse, he fully recovered. Several lumbar punctures were made, not for their therapeutic value, but to establish the diagnosis and to note the progress of the disease. As the case progressed toward recovery the turbidity of the fluid grew to be less and there was a destruction of the pus-corpuscles. The fluid contained a short rod-like bacillus.

At the Imperial Society of Physicians of Vienna, May 13th, HOCHENEGG presented a patient, a female aged forty-seven years, who had suffered from symptoms of intestinal obstruction, immediately after an intense abdominal pain. There was a doughy tumor at the umbilicus, and a diagnosis of volvulus of the transverse colon was made. Laparotomy was performed, and about six quarts of bile-stained fluid was washed out of the abdominal cavity. An old distended gall-bladder had ruptured.

FABRICIUS mentioned three cases of rupture of the gall-bladder in which a correct diagnosis was not made. In the first, on account of the umbilical swelling, a hernia was thought of; in the second, the tumor was so hard that it was mistaken for a fibroma; while in the third case, the escaped fluid penetrated the sheath of the rectus muscle and set up an abscess.

At the Vienna Medical Club, May 10th, LANG showed photographs of vesical mucous membrane taken during life by means of an improved cystoscope, his own modification. The actual negatives were about 3 mm. in diameter, but they were enlarged about ten diameters, so as to make it possible to see details more clearly. The instrument also prevented any trembling, which is certain to spoil a photograph of this sort. The instruments were sterilized by exposure for an hour and a half to formalin vapor.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE

Stated Meeting, Held Thursday, June 1, 1899.

THE President, DR. WILLIAM H. THOMSON, in the Chair. The paper of the evening was by DR. HENRY D. CHAPIN, and was entitled "The Treatment of Summer Diarrhea in Infants" (see page 65). The discussion was opened by DR. L. EMMETT HOLT, who said in brief: The most important consideration as regards the lessening of the death-rate from diarrhea among infants in our large cities in the summer time is the matter of intelligent prophylaxis. For this the most practical means at hand would seem to be the dissemination of literature among the ignorant classes. In the tenement-house district, especially, is the information scattered by leaflets containing definite directions as to the feeding and care of children in the hot weather of special importance. There is no doubt in the minds of any who have had experience in this matter of the great possibilities for good that are contained in this work.

Dispensary practice among the very poor serves to show how extremely necessary seemingly the most obvious information on such matters is. The most ludicrous, if they were not so serious and apt to be so fatal, mistakes are made by mothers who might easily be expected to know better. The distribution of a leaflet containing the necessary directions as to the care of children in summer was contemplated two years ago, but for some reason the idea was abandoned. It is to be hoped that the New York City Board of Health will again take up the work in this line, for there is not the slightest doubt that great good can be accomplished in this way.

As to the actual treatment of diarrheic conditions time is the most important element for their cure. If they can only be treated in time there is but very little danger. Twelve hours is more precious for therapeutic purposes at the beginning of the sickness than is a whole week of medication later on. The trouble is, however, that beginning diarrheas are neglected. They are attributed to teething, to a cold, to the weather, and it is thought they will get better of themselves or with some simple household remedy, and with some slight modification of diet. In twenty-four hours, perhaps, a fatal diarrheic condition that defies all treatment is lighted up. Four or more movements a day in the child are allowed to occur for some days without seeking relief for them. The infection gains a firm hold by irritation of the intestine, and then cannot be eradicated before it has produced serious effects.

In children with whom simple milk does not agree the dilution of the proteids of the milk by some carbohydrate is often of great service as a prophylactic against diarrhea. A number of the cereals may be used for this purpose, and there is no doubt that they have a good effect.

Arthur Keller has shown by a recent series of experiments that in vitro, at least, the presence of carbohydrates prevents the putrefaction of proteids. We thus get a scientific confirmation of what we have known for a long time clinically to be the case, that intestinal putrefaction of milk is prevented by mixture with cereals.

Once the diarrheic condition has asserted itself there should be no hesitation as to taking radical measures. Mere modification of diet will not suffice. The practitioner is tempted to temporize, and hopes that the condition will not prove serious. This is always a serious and may prove a fatal mistake. Stop all food at once until there is a decided improvement in the intestinal condition. The indication is to get the stomach and intestines empty as soon as possible. For this irrigation of the intestines is the best therapeutic means, not once only, for after the lower bowel has been washed out for some hours, other material comes down into it, and this too may be removed, and some of the toxic absorption and a certain number of the intestinal micro-organisms be gotten rid of. In ordinarily severe cases irrigation may be practised four or five times a day. In bad cases when the temperature runs up to 105° F. the intestines should be irrigated every two hours, at first with warm water (100° to 105° F.) to get its cleansing, relaxing effect, and then with cooler water to help bring down the temperature. Washing out the stomach is also good, especially at the beginning of an attack.

All food should be stopped absolutely for twelve hours or longer. Water may be given freely, and stimulants are often good. It must be remembered that even sterile milk does not stay sterile long in an infected digestive tract, and that its presence only irritates, while the milk itself forms an excellent culture medium for the growth of micro-organisms that are present.

DR. ABRAHAM JACOBI said that there are times when one feels that one has not lived in vain. Such occasions almost compensate, though they are seldom enough, alas, for the number of times when one feels that one has accomplished nothing. It is refreshing, indeed, to hear the recommendation to mix cereals with milk given so freely after one has been teaching the doctrine for thirty to forty years. Years ago he counselled the suspension of the casein of the milk in oatmeal or barley-water by proper dilution. It certainly produces a more flocculent curd. Of late years the idea has been taken up very enthusiastically in certain parts of Europe. Professor Heubner, for instance, who holds Henoch's chair at Berlin, has taken up the matter of the mixture of milk with cereals, and is teaching it very emphatically.

With regard to leaflets to be distributed to the poor containing instructions for the feeding of infants, he believes very fully in their usefulness. More than twenty-five years ago at the request of the New York Board of Health he prepared such a leaflet, and for nearly twenty years it was regularly distributed. About five years ago its further dissemination was given up for some unknown reason. There is only one thing in the old leaflet that it would seem desirable to change and that is the direction to add bicarbonate of soda to the milk when it cannot be procured fresh. Adding to the alkalinity in this way only makes the milk a better culture medium for micro-organisms and this should be avoided.

It is not by any means a new observation that the presence of carbohydrates prevents putrefaction. It has been known that they readily undergo fermentation and that in this process free acids are formed. The presence of free acid acts as an inhibitory agent to the microbes that produce putrefaction. The use of cereals in baby-food is then at once a preventive and a curative agent in certain intestinal disorders.

It has long been the custom to say that no amylaceous substances should enter into a young infant's food because it has from nature at an early age no ferment capable of digesting starch. Even admitting this, however, the addition of carbohydrates to the child's dietary supplies a certain amount of ballast to artificial food. In mother's milk this ballast is provided mainly in the fat which constitutes 10 to 12 per cent. of the excrement of nursing babies. It is not true, however, that even very young infants have no ferment capable of digesting starchy material. The saliva of a newly born child, and it is wrong to say that there is no saliva at this age, will dextrinize starch as any one who wishes may prove for himself. That the parotid gland of a healthy fetus after three months of age contains an amylolytic ferment has been proven over and over again. The submaxillary gland contains a similar ferment to that in the parotid gland from the beginning. Starch digestion is then very natural to the infant and the mixture of this material in artificial food provided for it is indicated at all ages.

DR. KOPLIK said that he thought preventive measures should be more insisted on than had been the case in the discussion, and especially that summer diarrheas should be treated rigorously in their very earliest incipiency. A slight frequency of stools, especially if they are of watery consistency and if accompanied by the slightest inclination to vomit, should be the signal to stop all feeding at once. Then the bowel should be promptly cleaned out and the stomach also if thought advisable. The one thing that must be the doctor's object is to prevent the development of serious diarrheas. Very little can be done for the severer forms of the affection and prophylaxis is our only hope.

Here in New York City we are at least twenty hours away from our milk-supply, so that there is no hope of getting anything like fresh milk. Under these circumstances he was surprised that the necessity for the sterilization of all milk to be given infants had not been not more insisted on by the preceding speakers. After thorough sterilization the milk should be cooled rapidly in order to prevent the separation of the cream from it to too great extent. Pasteurized milk though much confidence had been placed in it for the prevention of summer diarrheas has not been found satisfactory. It is liable for reasons not well understood just yet to set up slight diarrheic conditions and cause some gastro-intestinal irritation so that its use is not advisable.

As to the mixture of a certain amount of the cereals with milk for infant feeding his opinion accords more

or less with what had been said by others. The current of medical sentiment is settling in this direction. In some cases certainly they give excellent results, in others they are very disappointing. There seems to be no special method of deciding in any given case whether they will agree with the little patient or not so that the only thing is to try their effect and note the results.

As to drugs very little dependence can be placed on them in the severe diarrheas of the summer time. When a practitioner thinks that he does a great deal of good with drugs he is evidently not an acute clinical observer. Divided doses of calomel are often claimed to be of service, but of late years he has learned to distrust any specific action this might have through its effect on the biliary secretion, or because of its supposed intestinal antiseptic effect. Opium he would never advise. It sometimes does some good by quieting the child, but should be given only in very small doses. It is better to have a restless child than one in whom opium helps on a fatal stupor.

In a severe case of summer diarrhea the first indication is to wash out the stomach, remove fermenting material and prevent the absorption of toxic materials from the gastro-intestinal tract. This lavage need not be repeated. The intestines should be washed out frequently, however. It removes peccant material; it stimulates peristalsis, which also helps to remove undesirable irritating substances, and it supplies water to the infant, a very useful measure since it is well known that the child is water-starved. A stiff rubber rectal tube, such as is used for adults, may be used without fear. Too much pressure should not be employed, however, in forcing water into the intestines as it is possible to burst them. The irrigator should not be placed more than one foot above the patient. It is a good plan to try and leave considerable water in the intestine when the irrigation is concluded. About a pint of normal salt solution should be employed. This is absorbed better than simple water and besides is less irritating. After improvement begins it is not easy to go back to milk at once. At first it should be well diluted to insure its not setting up a relapse to the former condition.

DR. GRAHAM LUSK detailed some observations that he had made on young pigs. Beginning when they were two days old he had fed them on skimmed cow's milk. To a certain number he gave only cow's milk skimmed, to others skimmed milk to which two per cent. of sugar was added, to others skimmed milk with two per cent. of dextrose. Those fed only on skimmed milk did not thrive. They were thin and scraggy looking and failed to grow properly. Those fed with skimmed milk and sugar did reasonably well, while those fed also on dextrose grew vigorously. This substance is a cereal product, so that these recent observations would seem to confirm Dr. Jacobi's long-standing opinion as to the value of cereals, when added to milk, for the feeding of the very young.

In closing the discussion DR. CHAPIN said that despite certain prejudices in the matter that are rather widespread, a certain small amount of cereals does not cause, but rather checks diarrhea. They are not, it is true, as Dr. Koplik said, always effective, but milk diluted with oatmeal or barley-water always is tolerated better than if diluted with plain water. He thinks that as a rule pasteurization suffices to make milk safe for infant consumption. In very hot weather it is safer to sterilize. It must be remembered, however, that it is not enough merely to stop fermentation in the milk and that the destruction of the micro-organisms in it makes it fit for use. If the milk is old and fermenting processes have been going on in it for some time changes have been made in the substance of the milk that may make it unfit for use. It would be a great advantage if we could obtain fresher milk in this city than at present; if instead of receiving milk 20–24 hours old, or even older, we could obtain milk 10–12 hours old. This constitutes a field for the most serious effort and one in which successful effort will be most fruitful in saving the lives of city children.

THE AMERICAN ORTHOPEDIC ASSOCIATION.

Abstract of the Proceedings of the Thirteenth Annual Meeting, Held at New York, May 31, and June 1 and 2, 1899.

THE president, DR. W. R. TOWNSEND of New York, opened the meeting with the reading of the annual address. He reviewed the history of orthopedics in America and showed that the profession of New York City had been mainly instrumental in bringing about the improvements in this branch of surgery in America and throughout the world. Four names especially stand out: James Knight, the philanthropist; Charles Fayette Taylor, the mechanical genius and enthusiastic leader; Lewis Sayre, the impressive teacher and eminent author; and Henry G. Davis, who revolutionized the treatment of joint and spinal disease and whose originality and genius made him the father of American orthopedic surgery.

DR. E. H. BRADFORD of Boston then read a paper, entitled "In Memoriam of Dr. Charles Fayette Taylor," in which he referred to Dr. Taylor as the founder of modern practical orthopedics and said that every meeting of the American Orthopedic Association is and would ever be a tribute to his work.

The next paper, on "Degeneracy as a Causative Factor in the Production of Scoliosis" by DR. JOHN RIDLON of of Chicago, will appear in a subsequent issue of the MEDICAL NEWS.

DR. E. G. BRACKETT of Boston then read a paper prepared by himself and DR. E. H. BRADFORD, entitled "The Forcible Correction of Lateral Curvature." He said that it is well known that even bone will yield to continuous pressure. The difficulty has been the retention of affected parts in positions in which pressure could be exercised. When the patient is in the recumbent position the advantage of the superincumbent weight is lost as an aid. A properly fitting and applied apparatus can be made to avail itself of this. The cast should be applied in a Bradford frame, which enables one to do away with the disadvantage of the superincumbent weight and use it as a corrective.

Pressure should be applied at three points, particularly behind, of which that of greatest deformity is the principal one, and others above and below while counter-pressure is exercised on points on the opposite side of the body. The great objection to the use of jackets in scoliosis is that the point of greatest counter-pressure is over the concavity of the curve of the deformity on the opposite side. The tendency this has to emphasize the deformity may be corrected by a collar around the neck that takes up most of the counter-pressure.

The cases for which forcible correction with retention as far as possible in the corrected position is necessary are those in which there is bony change and in which bony development is still expected. The greater the deformity the more is this method indicated. It serves a very useful purpose in children who are too weak for gymnastics, or who are not sufficiently under control to be put through regular exercises. The amount of correction that follows three or four applications of the jacket is often wonderful. After the primary improvement, however, there is a period of comparative standstill during which other methods may be used with advantage.

DR. TESCHNER of New York followed with a paper, entitled "The Heavyweight Treatment of Post-paralytic Deformities, Including Lateral Curvatures." He has had six cases in which he has been able to restore function to seemingly degenerated muscles by graduated exercises so arranged that finally eight- to ten- or even fifteen-pound dumbbells were employed. He has the patient, with frequent rests, put forth each time all the strength he is capable of. Three of his cases were obstetric hemiplegias with atrophy of muscles, yet a great deal of improvement took place. Reaction of degeneration in muscles disappeared during the course of the exercises and were replaced by normal muscular reactions. He considers that the muscular fibers intact in the muscle are developed to their fullest extent, and that there is under the stimulus of exercise an actual development of muscle substance.

DR. WALTER TRUSLOW then read a paper, entitled "Some Remarks on the Class Method of Gymnastic Treatment in Lateral Curvature," which will appear in a subsequent issue of the MEDICAL NEWS.

DR. AUGUSTUS THORNDIKE of Boston read a paper, entitled "Congenital Deformities of the Spine." He discussed the two forms, spina bifida and rachischisis, and exhibited illustrations of the various forms, and of their association with forms of anencephalus, meningencephalocele, and other congenital abnormalities. Before operation the tumors need to be carefully protected from abrasion and infection. There are two practically absolute contraindications to operation, marasmus and the presence of hydrocephalus as a complication.

Rupture of the sac is usually enough to justify immediate operation as infection is almost sure to follow. Convulsions, if due to internal pressure, may sometimes be relieved by puncture and evacuation of the sac, but this gives but temporary relief and is usually employed only in acute cases where the operator is not ready for more radical measures. Two methods of radical cure are employed, excision and the injection of iodin. Excision is the ideal operation. Iodin has undoubtedly cured certain forms of simple meningocele, but it is so difficult to distinguish them from the others that excision is preferable.

DR. L. A. WEIGEL of Rochester, N. Y., then read a paper, entitled "The Diagnostic Value of Radiography in Orthopedic and General Surgery, Illustrated by Stereopticon Views." He showed that it is possible to detect even small foci of tuberculosis of bone by the X-rays. In the head of the tibia and in the os calcis by a number of views it was demonstrated that lighter areas due to porosity of the bone occurred in the radiograms, when there was only tenderness and usually no swelling present in the vicinity. In hip-joint disease he has found the pelvis on the side of the lesion markedly smaller and atrophic as compared with the other side.

In a series of injuries in which at the time no evidence of fracture could be obtained, yet serious deformity followed, the Röntgen-rays had shown various bony lesions, a fracture of the olecranon, a comminuted fracture of the acromion, fractures of the styloid process of the radius, followed by the throwing out of a large amount of plastic material, etc. In a case of supposed forcing of the tibia and fibula apart the astragalus had been found comminuted. Fractures of the neck of the os calcis were demonstrated in obscure cases. Fibrous deposit between joint surfaces can be detected even in such obscure situations as the lower jaw. Gonorrheal rheumatism in some cases produces a change in the periosteum and ends of the bones that may be demonstrated in the same way. Spontaneous dislocation of the hip such as occurs in typhoid was illustrated and its progress demonstrated.

DR. W. BURTON HOPKINS followed with a paper on "Pigeon Toe." He considers that there are quite a number of cases of this deformity amenable to direct treatment. As a rule parents consider this turning in of the toes at first in the child as they do a stoop or a swaying of the back, as a childish trick. In some cases one toe turns in much more than another. For these he has invented an instrument which turns the toe outward just as the heel comes down. At first he employed a spring set in the heel of the shoe; now he has modified the instrument so that it works on ball-bearings and is practically indestructible.

The report of the Committee on Recording Lateral Curvature was to the effect that photography constitutes the best method available at present for recording these spinal deviations, the method least open to error because of the personal equation, the one that is easiest to make and can be best understood by the general practitioner as well as the specialist without difficulty. As a means of controlling photographic records the method recommended by Kirchoff and somewhat modified by Bracket is suggested as simple and reliable. Its essential feature is the dropping of a plumb-line from the neck and measuring the distance of various parts of the scoliotic curve of the spines of the vertebræ from it in the various regions.

On motion of DR. WILSON of Philadelphia the report

of the committee was accepted, but no method of recording lateral curvature was recommended by the Association because none as yet described seems sufficiently definite and accurate.

DR. JOEL E. GOLDTHWAIT of Boston read a paper, entitled "A Study of Pott's Paraplegia as Affected by Correction of the Spinal Deformity." In eleven cases he has found that correction of the deformity has always been followed by immediate disappearance, *i.e.*, within a few hours or less of the paraplegic symptoms. The improvement has persisted in all the adult cases, though there has been some recurrence of symptoms in children. No force other than the patient's own weight was used in securing the correction.

DR. GOLDTHWAIT then read a paper, entitled "Osteo-arthritis of the Spine, with Report of Nine Cases." Osteo-arthritis of the spine or spondylitis deformans is really only the spinal form of a disease that may extend to all the joints. So far thirty-five cases under different names have been reported in the literature. To these the speaker adds nine.

The typical symptom is the rigidity of the spine which may begin in spasm of the muscles and then gradually ends in a fusion of the vertebræ. The ribs may become involved and the whole thorax become immovable when respiration will be entirely diaphragmatic. Improvement often occurs after the disease has reached its acme.

Certain text-book declarations as to the disease are not borne out by careful study of the cases. It is not exclusively a disease of the old but occurs oftenest in early middle life and not infrequently in closing adolescence. It is not limited to the large joints as is often stated but may involve the fingers. It may not give the characteristic deformity of kyphosis or scoliosis but may make the spine rigid with all its curves preserved.

In the group of cases that are usually supposed to come under the head of spondylitis deformans there are really either two distinct diseases or two very divergent types of the same disease. The one form is more properly designated a rheumatoid arthritis and is atrophic in character and leads to the disappearance of portions of the normal joint; the other is a productive osteitis. Nodular projections occur on the long parts and these fuse together producing the anchylosis that is noted as such a prominent sign of this type.

As to the cause of the ailment in either of its forms nothing is definitely known. Gonorrheal rheumatism and other unusual forms of arthritis have been thought to be responsible for it, but their etiological connection is not proven. Dr. Goldthwait finds in his own cases and in certain ones reported in the literature that patients subjected to extremes of temperature are especially liable to suffer from it, firemen, stokers, engineers, and the like. As to treatment, stimulating baths are good, but frequent hot baths, though employed by some, are debilitating and do harm. Regarding hot-air treatment the same is true; it must not be employed so much as to weaken the patient.

DR. G. G. DAVIS of Philadelphia read a paper, entitled "Operative Treatment of Congenital Dislocation of the Hip." He described two new instruments for making or deepening the acetabulum in these cases; one a heavy spoon-shaped gage chisel, the other a half rose-burr, somewhat like a trephine, especially adapted for making a shoulder against which the head of the femur would rest in the new acetabulum.

DR. W. J. TAYLOR of Philadelphia then read a paper, entitled "Report of a Case of Dorsal Dislocation of the Hip Occurring Spontaneously During the Course of an Acute Osteomyelitis of the Neck and Shaft of the Femur." The case was thought at first to be one of tubercular hip-joint disease; an abscess formed and opened of itself. After this spontaneous dislocation upon the dorsum ilii took place. This led to suspicion as to the cause of the process, when a free incision showed that the original affection had been an acute osteomyelitis of the shaft of the femur. The process involved the bone for some distance from the joint, and abscesses had formed beneath the periosteum and within the bone itself. These were evacuated and thoroughly scraped, though the patient's low condition did not allow of doing all that was desired in the matter. Recovery took place with four inches of shortening.

The disease started at the epiphyseal line which is within the capsule, and rupture took place into the joint. Distention of the capsule was the mechanical factor favoring dislocation, and the mechanism of the lesion is exactly the same as that which takes place in typhoid. The practical point to be borne in mind is that relief of the distention of the capsule may prevent spontaneous dislocation, if aspiration, or puncture, and drainage is done in time. In general, harm to joint structures is done by allowing distention to continue long in any joint, so that the advisability to removing some of the fluid should always be borne in mind.

DR. W. E. WIRT of Cleveland, Ohio, followed with a paper, entitled "Reduction of Congenital Hip Dislocation by the Lorenz Method." If taken at an early age he has found that very good results can be obtained by the bloodless method of Lorenz in the severest cases of congenital dislocation of the hip. In one of his cases relapse occurred because no apparatus was used after two months. He employs a bandage with a pressure pad to retain the head of the femur in place. This must be worn for 4–6 months to insure against recurrence of the deformity. The use of a high heel on the affected side as recommended by Lorenz is also of use in keeping the bone in place. Sometimes it is extremely hard to get the head of the femur down to its place, and Dr. Wirt has used as high as 200 pounds traction before the operation and yet had difficulty during the operation. The younger the children when operated upon the less the difficulty and the better the result.

DR. H. M. SHERMAN of San Francisco then read a paper, entitled "Congenital Dislocation of the Hip." He has performed eleven bloody or open operations according to the Lorenz method. In these the results have been as follows: Three are stable, *i.e.*, the head of the femur remains in place but there has been anchylosis; one is stable and there is a certain amount of motion. There is also

a certain amount of shortening, and for some unknown reason this is increasing. One is stable and anchylosed and the anchylosis has been broken up giving motion, but the typical gait of the short-necked femur remains. Three luxated again and are failures. Both hips of one child operated upon anchylosed, causing a very awkward gait which was improved by the recurrence of luxation of one hip. He has operated on thirteen hips by the bloodless method, of which seven have recurred. Lately he has operated with the Lorenz manipulations, but has convinced himself of the presence of the head of the bone in the acetabulum by an incision and actual palpation of the conditions. He has been better satisfied with this method though about one-third of them have definitely reluxated and a certain number of them are still in splints and the ultimate results are uncertain. He thinks there must be some way of correcting the deformity, but up to this we have not found the way.

DR. R. T. TAYLOR of Baltimore then demonstrated the kyphotone, a machine for the forcible correction of the deformity of Pott's disease. It consists of an arm attached to the upright from which the patient is suspended, by which pressure is brought to bear immediately over the most prominent part of the deformity of Pott's disease thus securing the greatest possible amount of correction as the jacket is put on. He also exhibited an inclined plane of nickeled steel-tubing, light and easily adjustable, and eminently cleanly for use in fractures and the treatment of deformities.

DR. ROYAL WHITMAN of New York then read a paper, entitled "Further Observations on the Treatment of Congenital Dislocation of the Hip. Exhibition of Patients," which will appear in a subsequent issue of the MEDICAL NEWS.

DR. T. HALSTEAD MYERS followed with a paper on "Cases of Coxa Vara and Congenital Dislocation of the Hip. Exhibition of Patients." The case of congenital luxation of the hip was the first one operated on by the Lorenz method in this country and the result is perfect.

Patients suffering from different varieties of orthopedic disease were then exhibited by Drs. Ketch, Waterman, Taylor, and Townsend, after which DR. A. M. PHELPS of New York read a paper, entitled "Report of Cases of Tubercular and Purulent Abscesses of Joints, Treated with Pure Carbolic Acid." He said that he first washed his hands in pure carbolic acid and, after allowing it to remain for a minute, washed it off with alcohol. This he considers demonstrates that alcohol is the antidote to carbolic acid locally. Taking advantage of this he swabs out all cavities thoroughly with pure carbolic acid, and then washes them out with alcohol and later with water. In tuberculous cases he obtains primary union by means of this even in long-standing suppurative cases. Where the patients remained in the hospital for months before they now stay weeks. In three or four weeks they may be discharged cured, while four months did not seem long before.

In cases of erysipelas with high fever the effect of the application of carbolic and its subsequent neutralization had been most marked. A drop of four to five degrees in temperature took place, and the erysipelatous process ceased to spread. In Dr. Phelps' own case when septic infection had set up lymphangitis the same sort of an application had lowered the fever, relieved the symptoms, and made him feel much easier. What theory explains this action he does not know; perhaps there is a change produced in the subcutaneous layers with absorption of phenic or other albuminoids. The effect is certainly produced, and there would seem to be great promise in the use of the remedy in the various affections mentioned.

DR. ARELLANA, Dr. Phelps' assistant at the City Hospital of New York City, read a paper on "Cases of Erysipelas with High Temperature, Treated by Applications of Carbolic Acid, with Subsequent Neutralization by Alcohol." In a series of some ten cases of erysipelas of the face and neck, with temperatures ranging from 104.5° to 105.5° F., applications of pure carbolic acid were followed in from eight to twelve hours by a drop of from 3° to 5°, and the process ceased to spread. In about one-third of the cases a second application had to be made, but never a third. No other method of treatment, local or internal, was employed, and all of the patients recovered, though it is among such that fatal cases of erysipelas are often found. In none of the cases has there been any smoky urine, or any change in the urinary secretion, and no sign of any carbolic-acid poisoning has developed, though they have been carefully looked for.

DR. G. G. DAVIS of Philadelphia presented a new osteoclast and a new instrument for flat feet and for paralysis with drop-foot to be worn inside the shoe.

DR. WIRT of Cleveland presented a new knee-brace for correcting deformity and a pocket goniometer.

DR. S. L. MCCURDY presented a new apparatus for the support of the head in cervical Pott's disease with supports on the sternum and back below and chin and occipital pads above.

DR. H. M. SHERMAN of San Francisco read a paper, entitled "Position Symptoms in Joint Disease." He said in brief that the position assumed in joint affections is a valuable clinical symptom of the amount of inflammation present and the stage of the affection and has long been acknowledged as such. There has not been the same agreement as to the reason for the positions observed. The French explanation that the amount of the effusion into the joint causes the various positions by tension on the capsule or by its rupture late in the affection is no longer accepted. The idea that one set of muscles is stronger than the other and that both being irritated the stronger flexors overcome the extensors supposes a struggle for superiority between muscles that does not exist. Dr. Sherman considers that the position assumed is due to the reflex call for rest for the affected parts which causes not a spasm but a tonic contraction of muscles fixing the limb in a definite position where there is least discomfort. When this tonic contraction relaxes for any reason, as during sleep, then there occur the starting pains so often noted. This muscular fixation is, however, but a small part of the mechanism as bones and ligaments and capsular tissues share in the reflex demand for rest.

DR. B. E. MCKENZIE of Toronto read a paper, en-

titled "Some Salient Points in the Treatment of Hip Disease," which will appear in a subsequent issue of the MEDICAL NEWS.

DR. C. L. STARR of Toronto followed with a paper on "The Conservative Surgical Treatment of Tuberculous Disease of the Joints." He considers the ideal surgical treatment for a tuberculous focus in bone to be to cut down and remove it before it had invaded important structures and caused extensive destruction of tissue. The first definite focus of tuberculosis is situated at the epiphysis, which accounts for the fact that the very young and the old are not attacked. In the very young the hyperemia here increases the resistive vitality; in the old, fatty changes have made the parts a poor culture medium for the bacillus tuberculosis.

There are certain cases in which we are unable to diagnose the presence of a tubercular focus before it has invaded the joint. Pain is not very valuable as a diagnostic sign of the position of a lesion because of its liability to be reflected from and referred to other points than the affected one along nerves. Tenderness is, however, of the greatest service and will very often enable one to diagnose with assurance.

The indication is to open up at once and scrape away all the diseased bone. In the head of the tibia or in the malleolus this is often very feasible and can be done successfully in the femur. The cavity made should be swabbed out with carbolic acid or with chlorid of zinc and then packed with iodoform gauze. Healing in selected cases is prompt and complete. So far no recurrences have been noted.

DR. A. B. JUDSON then read a paper, entitled "Additional Views on the Treatment of Hip Disease." He said that a great deal can be done to correct the gait of cured hip-joint disease with shortening, by training the patients to walk. Girls with two or three inches of shortening often walk marvelously well. Boys more neglectful with less shortening walk very awkwardly. Military training and the keeping of time is a good drill for these children. The parents must be impressed with the idea that constant watchfulness and care in the matter of the best possible gait will lead to improvement in this matter. A deliberate turned step must be adopted. If this care of the walk is attended to the surgeon need never fear anchylosis in a bad position.

DR. S. H. MCKIM of Baltimore then read a paper prepared by himself and DR. R. T. TAYLOR, entitled "Some Clinical Features of Rheumatoid Arthritis." Among the clinical features of the disease not usually pointed out the authors dwelt on the frequent occurrence of polyadenitis of the lymphatic system and enlargement of the spleen. The systems of glands especially affected are those nearest the diseased joints, the epitrochlear, the inguinal, and the posterior cervical. Slight exophthalmos often exists, and there is frequently some fever. The febrile course is of two types, either acute, lasting for but a few days at the beginning, or continuous for some time when it is milder. Garrod still believes that the disease is a gouty or rheumatic manifestation, but most of the authorities agree with Osler, who considers it a nervous condition. The differential diagnosis must be made from subacute rheumatism, in which the changes around the joints are fibrous in character and not the nodular enlargements met with in the productive variety of rheumatoid arthritis. Charcot's disease occurs in older people as a rule, though at times, too, in young people, but gives clear evidence of being trophic in character. It must be borne in mind that the starting pains at night may occur in rheumatoid arthritis as well as in tuberculous joint disease and this fact must be remembered in making the diagnosis. Very little seems to be accomplished by any treatment. Ordinary rheumatic, alterative, or absorptive remedies appear not to affect the course of the disease or any of its symptoms. Even the breaking up of adhesions under ether seems to do little if any good.

DR. J. D. GRIFFITH of Kansas City then read a paper on "A New Method of Reducing Ancient Dislocations of the Humerus by Open Incision." In three cases he found that by cutting the long head of the biceps the head of the bone slipped back comparatively easily. As a number of deaths have been reported from the use of force in these cases because of rupture of the axillary vein, this bit of technic seems worth bearing in mind. He exhibited an instrument shaped like a very large periosteal elevator, devised to assist in throwing the head of the humerus back into the glenoid fossa.

DR. S. L. MCCURDY of Pittsburgh read a paper on "Heat as a Therapeutic Measure." In chronic joint disease bacterial growth may be inhibited by keeping the joint subject to temperatures of 140° F. for hours and metabolic processes are increased and absorption of inflammatory products take place. The difficulty is that living tissues cannot be elevated in temperature sufficiently to accomplish either of these ends without hurting cell-life so much as to do more harm than good.

DR. B. E. MCKENZIE of Toronto read a paper, entitled "Surgical Intervention in Spastic Paralysis (Cerebral Palsies)." He said that these unfortunate patients, owing to the prevalence of the idea that the basis of their symptoms is a lesion of the central nervous system, and that nothing, consequently, can be done to permanently improve them, have received in the past too little attention. He has found that all of them are benefited by properly directed treatment. He cuts the tendons of spasmodically contracted muscles and puts the limbs up in casts to secure elongation on union. The adductors he has found especially subject to contraction and after section he fixes the legs at an angle of 90°. Relapses may occur and then he tenotomizes again or does a myotomy. The children are soon able to walk and their association with other children soon improves their mental qualities. They grow much more intelligent. Apparatus can be dispensed with after a time, or need be worn only at night. Training and gymnastic exercises serve to get the children into better general health. The absence of the reflexes set up by the continuous spasm gives the child an opportunity to develop physically and mentaliy in a way that is most satisfactory.

DR. A. B. JUDSON of New York then read a paper,

entitled "Prothesis, a Branch of Orthopedic Practice." He exhibited sets of apparatus designed to hide deformity and make up for various disabilities. A perfectly normal looking shoe for considerable shortening after hip disease, the foot being supported on a cleverly constructed inclined plane within it, was the most striking.

DR. DANIEL LA FERTE of Detroit, Mich., then read a paper, entitled "The Cause of Failure after Phelps' Operation for Club-foot." In his experience failure has been invariably due to the fact that not enough tissue was divided to permit correction of the foot. Everything that resists the reposition of the foot to a normal position and a little beyond should be freely divided. This may require division of certain ligaments of the joints, as well as skin, fascia and muscles; even the posterior ligament of the ankle beneath the tendo-Achillis may require division.

DR. ARTHUR GILLETTE of St. Paul, Minn., followed with a paper, entitled "The State Care of Crippled Children." He stated the necessity for State care for such children when relatives are poor, and detailed the successful effort that has been made in Minnesota in securing State aid for an orthopedic department. The success achieved has made the gaining of further State aid easier, and now the outlook for orthopedics for the needy is good. Patients are taken only on the recommendation of physicians and the manner of conducting the affair through the Legislature, may prove of help to others who have similar objects in view.

DR. RUSSELL A. HIBBS of New York then read a paper, entitled "A Preliminary Report of a Study of Shortening of the Tibia in Connection with Tuberculous Disease at the Hip." In a previous paper he had shown that in 110 cases of hip-joint disease there was distinct shortening of the femur. The most shortening occurred in non-suppurative cases so that it was due not merely to loss of bone but to nervous or circulatory causes. He has now examined the tibias in 41 cases, and has found that this bone also is shortened in most cases, and and in many more than the femur of the corresponding side. There is then a nervous or circulatory disturbance that interferes with the nutrition of the whole limb.

REVIEWS.

AN EXPERIMENTAL RESEARCH INTO SURGICAL SHOCK. The Cartwright Prize for 1897. By GEORGE W. CRILE, A.M., M.D., PH.D., Professor of the Principles of Surgery and Applied Anatomy in the Cleveland College of Physicians and Surgeons. Philadelphia: J. B. Lippincott Company, 1899.

ANY experimental evidence tending to throw light upon our knowledge of surgical shock is a welcome addition to the literature of the subject. Dr. Crile has accumulated in his researches some testimony as to the nature of this most dreaded of surgical sequels, which while not entirely new, is, nevertheless, important on account of its practical bearings.

His researches embraced operations upon animals in all regions of the body. Operations upon the brain and the abdomen seemed, under certain conditions, to provoke shock more easily than operations in other parts of the body, while procedures upon the male genital organs and dragging operations in the vicinity of the pylorus and gall-bladder seemed also prone to call forth this condition. The author concludes as a result of his work that shock is primarily a vasomotor disturbance, influenced indeed by cardiac and respiratory changes. Hemorrhage the author finds a powerful factor in producing shock as it is responsible for the great change in the vasomotor efforts to maintain a mean blood pressure. The best treatment is prophylactic; but with the condition once established, the author finds experimentally that the usual clinical treatment with heat, strychnin stimulation, and saline infusions is based upon sound physiological principles.

The essay is the result of hard work and a large number of experiments and is admirably written. It deserves a high place in the literature of the subject with which it deals.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures on Medicine, etc., with specially prepared articles on Treatment and Drugs. By PROFESSORS and LECTURERS in the Leading Medical Colleges of the United States and Foreign Countries. Vol. I. Ninth series. Philadelphia: J. B. Lippincott Company, 1899.

THE present volume contains a most varied assortment of good things, and keeps up the reputation of the Quarterly for the presentation of practical material of present interest and actual value to the practitioner. Professor H. C. Wood of the University of Pennsylvania contributes an interesting lecture on "Cold as an Antipyretic." Besides very practical suggestions as to the use of the various hydrotherapeutic remedies, there is a special section on "Air Baths." Professor Wood says: "Sometimes when cold-water baths are not to be had cold air becomes of great value for the reduction of temperature. The method at least in the winter time is of very simple application; the patient is covered with nothing but a thin sheet and the windows of the sick room widely opened until the temperature of the room has fallen sufficiently low. This cold-air treatment may be boldly employed, for patients with high temperatures cannot take cold. The thermometer must be the guide in the matter, and the patient's temperature must not be allowed to come down to the normal for it is to be remembered that the room will remain cool for some time after the windows are closed. The patient should not be exposed below the pelvis, and the legs and feet should be well protected. Any disposition to coldness of the feet is an indication for the local application of heat."

Professor Rosenheim's clinical lecture on "Chronic Constipation" is concluded, and contains some further very practical suggestions. This, for instance, seems novel on this side of the water at least. He insists on the plentiful consumption of fat for constipation, and suggests that when one form of fat is not well borne another may be; for instance, when butter disagrees things prepared in lard may not, or when both prove indigestible goose lard, or some of the vegetable table oils, may prove

palatable, produce no disagreeable symptoms, and accomplish the desired result.

Professor Eulenberg of Berlin has a very suggestive contribution on the "Present Position of the Treatment of Tabes," while Professor Fournier of Paris presents some very striking views as to the "Frequency of Cases of Unsuspected Syphilis."

From Professor Adolf Bagınsky of Berlin there is a clinical report that contains a clear discussion of certain subjects in pediatrics that have attracted a good deal of attention in recent years: "Laryngospasm, Eclampsia, and Tetany in Children; Their Connection with Rachitis, and with One Another." Rachitis is generally conceded by pediatrists abroad to be the common basis from which the three symptom complexes mentioned take their origin. Incidentally, the interesting question as to the influence of an enlarged thymus in causing laryngospasms in children, and sometimes causing sudden death is discussed. Among the causes of sudden death in children mentioned is the lymphatic condition for which Professor Bagınsky fails to see the necessity for creating a special rubric, as the cases included under it are only the outspoken examples of the scrofulous diathesis with which all physicians are familiar and for which a special name is not needed.

ALBUMINURIA AND BRIGHT'S DISEASE. By NESTOR TIRARD, M.D., F.R.C.P., Physician to King's College, London. London: Smith, Elder & Company, 1899.

THESE sentences from the author's introductory chapter supply a very good key-note to the contents of the book: "One of the chief difficultics connected with the term, Bright's disease, is that it has been so readily caught up by the non-medical world, and that it appears to be regarded among the laity as synonymous with albuminuria. This is much to be regretted as it frequently causes needless alarm and depression, when at some casual examination the presence of albumin in the urine has been detected."

The author might well have said that something of this same misapprehension still clings to medical minds, too. His book is eminently well planned to do away with this false impression for it is a thoroughly scientific and up-to-date discussion of albuminuria and its causes apart from Bright's disease, as well as of the various forms and phases of nephritis.

The chapter on renal or true albuminuria without definite structural change is especially complete. The discussion of the albuminuria that occurs after muscular exercise, of the albuminuria of hematogenous origin which has been noted in anemic states, especially in severe chlorosis, and of neurotic and febrile albuminuria, shows that the author has most conscientiously consulted the authorities on the subject and gleaned from the copious literature of nephritic and urinary conditions whatever is of interest and importance. The treatment of the subject of albuminuria seems especially to be commended inasmuch as a good deal of weight is laid on the opinion that physiological albuminuria is extremely rare, and that it should only be diagnosed when absolutely every possible pathological condition of the kidneys can be excluded. Dr. Tirard thinks it better to be over-cautious than to lull the patients into a false sense of security by the diagnosis of physiological albuminuria, albuminuria of adolescence and the like. Many of these subjects later develop true nephritis.

In the chapters on nephritis are found excellent reviews of recent opinions with regard to congestion of the kidney, to uremia, with a complete discussion of late suggestions as to its etiology, and also the interesting question of the association of albuminuria and glycosuria which has been noted so often by recent observers, especially in severe cases of diabetes. The accompanying albuminuria makes the prognosis of these cases even worse than when severe diabetes alone exists.

LES RAYONS DE ROENTGEN ET LE DIAGNOSTIC DE LA TUBERCULOSE. Par A. BECLERE, Medicin de l'Hôpital Saint Antoine. Paris: J. B. Baillière et Fils, 1899.

HALF of this work is devoted to a historical sketch of the subject of X-rays with a comparison of the merits of radioscopy and radiography. The author believes the former superior for the study of intrathoracic lesions in which the finer distinctions of shadows are lost in skiagraphs. For a subject yet in its inlancy the author takes a most optimistic view of the efficiency of the X-rays in disclosing incipient tubercular affections of the lung. The nine skiagrams included are illustrative of the supposed value of skiascopy.

ESSAYS FOR STUDENTS. By STEPHEN PAGET, F.R.C.S., Surgeon to the West London Hospital; Surgeon to the Ear and Throat Department of the Middlesex Hospital. New York: Wm. Wood & Co., 1899.

IN a charming colloquial fashion the author has recorded for students actual experiences on commonplace topics: strangulated hernia, cancer of the breast, some run-over cases, and elements of aural surgery. By the perusal of these essays the student will learn how to elicit the unbiased history of any case. These notes are free from any coloring or verbosity; yet the subjects are critically treated, and the same thoughtfulness is applied to the operative advice which is thoroughly abreast of progressive surgery. We hope that the success of this volume will impel its author to venture on another on the same lines.

LES REGENERATIONS D'ORGANES. Par le DR. PAUL CARNOT, Docteur des Sciences, Ancien Interne des Hôpitaux de Paris. Paris: J. B. Baillière et Fils, 1899.

THIS small compendium is a compilation of data bearing on the powers of regeneration in lower and higher animal life. In the first chapter regeneration is handled from the physiological, pathological, and traumatic standpoints, and these facts elucidated by comparison with zoological and emoryological phenomena together with the biomechanical forces at play in influencing ontogeny and phylogeny. Under the heading, "Regeneration of Structures Derived from Mesodermic Layer and Epidermic Layer," the practical feature of the regeneration of the in-

dividual organs is discussed. The author concludes that for vertebrates and man regeneration of function is of paramount importance to form; *i.e.*, that the conservation of function exacts the conservation of form which in many organs is assured by a diffuse hyperplasia of the entire organ in lieu of a local regeneration.

SAUNDERS' MEDICAL HAND-ATLASES. ATLAS OF DISEASES OF THE SKIN, Including an Epitome of Pathology and Treatment. By PROFESSOR DR. FRANZ MRACEK of Vienna. Authorized Translation. Edited by Henry W. Stelwagon, M.D., Clinical Professor of Dermatology in Jefferson Medical College, Philadelphia. With 63 colored plates and 39 full-page half-tone illustrations. Philadelphia: W. B. Saunders, 1899.

THE majority of medical schools in this country give but slight prominence in their curricula to the study of skin diseases, and as a result many general practitioners experience no little difficulty in formulating a correct diagnosis and instituting proper treatment in these conditions. Elaborate treatises have appeared from time to time but comparatively few have fulfiled the requirements of any save specialists in this particular branch of work.

No such criticism can be brought forward against the book under discussion. The first 191 pages are devoted to descriptions of the various skin lesions and their treatment, and the balance of the book to 104 full-page colored plates and half-tone cuts. Each illustration is drawn from life, and is accompanied by a clear and concise history of the disease in the patient whose case is pictured. A cross reference between the text and an illustration and history referring to the same disease at once simplifies the matter of diagnosis and clearly defines methods of treatment and the results which may be expected.

The translator's work has been well done and the editor's bracketed comments, while not numerous, assist in the elucidation of the text. The colored plates are masterpieces in their way, and the book-making in its entirety reflects great credit on the publisher.

SAUNDERS' MEDICAL HAND-ATLASES. ATLAS OF THE EXTERNAL DISEASES OF THE EYE, Including a Brief Treatise on the Pathology and Treatment. By PROFESSOR DR. O. HAAB of ZURICH. Authorized Translation from the German. Edited by G. E. DE SCHWEINITZ, M.D. With 76 colored plates and 6 engravings. Philadelphia: W. B. Saunders, 1899.

THIS is the American edition of Lehman's well-known series of hand atlases, and this number, on the External Diseases of the Eye, has been highly praised as a very practical presentation of the subject for the general practitioner rather than the specialist. The colored plates are very well done, and reproduce the pathological conditions with great accuracy as regards color and relations. The translation has been well done, and the practical touch of the experienced editor's hand can be noted in places, making the German text more suited to American practice. For stye, for instance, the German text writer suggests active poulticing with linseed meal to alleviate suffering, and shorten the process by bringing the abscess to the point of spontaneous evacuation or incision. The American editor suggests that repeatedly applied compresses soaked in hot carbolized solution, or in hot water containing thirty-three per cent. of fluid extract of hamamelis, is preferable. Then the remark: "The conjunctival hyperemia induced by eye-strain is a constant cause of chalazia and hordeola, therefore the necessity for correcting the refraction of the eye if it is anomalous," is just the added touch necessary to complete the clinical consideration of this very practical subject, but one which a German ophthalmologist would be apt to neglect.

THERAPEUTIC HINTS.

A Combination of Ichthyol and Creasote.—The good effects obtained from the administration of each of these drugs in tubercular pulmonary affections decided HUGO GOLDMAN to use them in combination. He prescribes as follows, claiming excellent results:

℞	Creasoti } aa		ʒ ss
	Ichthyol }		
	Glycerini		ʒ i
	Aq. menth. piper.		ʒ iiss.

M. Sig. Twenty to 30 drops in wine or lemonade three times a day after meals. For children and weakly individuals the dose is 10 to 20 drops.

For Squamous Blepharitis.—This occurs frequently in connection with seborrhea of the scalp, and gives rise to small crusts at the ciliary border of the eyelid. A sulphur ointment serves as the most effective means of cure, but is apt to cause a burning sensation and lachrimation by entering the conjunctival sac. TERRIEN advises, therefore, a weak preparation such as the following:

℞	Sulphuris præcip.		gr. iii
	Vaselini pur.		ʒ v.

M. Ft. unguentum. Sig. External use.

Solution for Fetidity of the Mouth.—

℞	Camphoræ		gr. lxxx
	Ac. salicylici } aa		ʒ iiss
	Ol. anisi }		
	Pulv. benzoini } aa		ʒ v
	Calcis chloratæ }		
	Glycerini		℥ vi
	Spiriti (forty per cent.)		ʒ x.

M. Sig. Mouth wash. Keep in dark bottle. One teaspoonful in a glass of water.

For Favus.—

℞	Potassii carbonat.		ʒ i
	Sulphuris sublim.		ʒ ss
	Tinct. iodi } aa		ʒ iss
	Picis liq. }		
	Adipis		ʒ iii.

M. Ft. unguentum. Sig. External use.

A thin layer of the ointment is spread on gauze and applied to diseased areas, being renewed daily. The slight dermatitis which may result is overcome by Lassar paste.—*Pirogoff.*

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ORIGINAL ARTICLES.

THE SERUM-TREATMENT AND ITS RESULTS.[1]

BY HERMANN M. BIGGS, M.D.,
OF NEW YORK.

AMONG the remarkable developments in medicine during the last ten years none has been more important in its practical value, nor more revolutionary in its effect on therapeutic possibilities and conceptions than the discoveries in serum-therapy. These discoveries have aroused the hope of the ultimate possibility of the production of artificial immunity to each one of the general infectious diseases of animals and man by the administration of innocuous or almost innocuous substances of bacterial origin, and there has apparently been placed almost within our grasp means for the specific treatment of many of these diseases.

The hopes earlier aroused in the minds of a few of the most enthusiastic workers in bacteriology have been more than realized in respect to diphtheria, and their most extravagant predictions have been actually exceeded by the results. The control of this disease, one of the most dreaded and fatal of diseases in modern times, has been rendered easily possible. The problems concerning diphtheria alone, however, of all the numerous and complex ones presented in bacteriologic therapy, have been completely solved so far as the practical aspects are concerned; but important contributions have been made to the solution of many others. In the study of each of these infectious diseases there are many unknown and variable factors whose determination requires most patient and painstaking investigation by methods newly worked out along new lines.

A full consideration of the present status of the serum-treatment involves the study of a large number of diseases, including diphtheria, typhoid fever, tetanus, pneumonia, streptococcus infections, cholera, yellow fever, tuberculosis, plague, leprosy, snake-venom, rinderpest, anthrax, rabies, and several other diseases of animals. The mere mention of this list shows the far-reaching effect of the epoch-making discoveries in relation to diphtheria and tetanus. Satisfactory practical results have not thus far been obtained in most of these diseases, but something has been accomplished experimentally in all, and the scientific observations have definite value as they assist in the solution of other problems.

It was my privilege to present before the Academy in April, 1895, a paper on the antitoxin treatment of diphtheria, then in its infancy, and the results obtained from its then limited use by the Department of Health of New York City. That paper called forth violent opposition. At that time the supporters of and believers in the treatment were few in number. The majority of the profession were waiting for more information and more evidence. The past four years have supplied this in amount and character sufficiently convincing to compel the acquiescence of every intelligence, whatever may have been the previous prejudice.

I desire first to consider rather carefully the results obtained in the serum-treatment of diphtheria, primarily in this city, and then, briefly, the results in some other great cities of the world.

A report of the results of the treatment of diphtheria with antitoxic serum (not including the hospitals) under the supervision of the Department of Health of New York City, covering the period from its inauguration, January 1, 1895, to October 1, 1896, was published in the MEDICAL NEWS in the issues for December 12, 19, and 26, 1896. The present report is intended to complete the data up to January 1, 1899. A summary of the cases previously recorded is also included.

It may be said in an explanatory way that on January 1, 1895, the Department of Health of New York City commenced the use of diphtheria antitoxin prepared in its bacteriologic laboratories. The supply of foreign preparations at this time was limited; only a few vials of reliable antitoxin of any grade could be obtained (none was then being produced in this country) and the prices were exorbitant, averaging about 80 cents per 100 antitoxin units (Behring's standard), or from $8 to $12 for a dose of from one-third to one-half the size of that now generally employed. All of the preparations of serum then in use were of a low grade, and their use has long since been entirely discontinued in this city.

The serum originally prepared in the laboratories of the Department of Health was first employed in the hospitals, but as soon as a sufficient quantity was at hand, arrangements were made for its adminis-

[1] Read before the New York Academy of Medicine, March, 1899.

tration without charge (at the request of the attending physician) by inspectors detailed for this purpose to any case of diphtheria occurring in the city, and a little later arrangements were made for the free distribution of antitoxin to all public institutions and for use among those too poor to pay for the remedy; and, finally, by a special act of the Legislature, the department was authorized to sell any surplus product, the proceeds from these sales to be deposited with the Comptroller as a special antitoxin fund, subject to requisition by the Department of Health for the further production of diphtheria antitoxin, or other antitoxins, and for the expenses connected with the treatment of cases of diphtheria among the poor.

During the first period, ending October 1, 1896, 1252 cases of true diphtheria were treated by the inspectors detailed for this purpose, with 198 deaths, giving a mortality of 15.8 per cent. Of these 80 were moribund at the time of the first injection, or died within twenty-four hours after the first injection of antitoxin; deducting these, the mortality was 10 per cent. From October 1, 1896, to January 1, 1898, 1195 cases were treated, with 163 deaths, giving a mortality of 13.6 per cent. Of these 71 were moribund; deducting these, the mortality in the second series was 8.1 per cent. From January 1, 1898, to January 1, 1899, there were treated 626 cases, with 68 deaths, giving a mortality of 10.8 per cent.; deducting 21 moribund cases, the mortality was 7.7 per cent. During the whole period from January 1, 1895, to January 1, 1899, there have been treated in all 3073 cases, with 429 deaths, giving an average mortality of 13.9 per cent.; deducting 172 moribund cases, there remains a total of 2901 cases, with 257 deaths, a mortality of 8.8 per cent. In addition to these 455 cases were treated and have been excluded from the table, either because they showed on bacteriological examination no Löffler bacilli, and were not regarded as cases of true diphtheria, or were found to be cases of true diphtheria, and were transferred to the Willard Parker Hospital, and therefore passed from observation of the inspectors.

The cases referred to do not include any of those treated in the various institutions of the city or in the hospitals of the Department, and were, as a rule, among the very poorest classes in the tenement-house districts. They have, generally speaking, been under the most unfavorable conditions; have been severe cases, or regarded by the physicians in attendance as hopeless cases, and have often come under observation late in the course of the disease. In a large proportion of the whole number there was practically no other treatment besides the administration of antitoxin. In some cases, strychnin, whisky, and other remedies were also given, but in many instances the physicians in attendance discontinued their visits after referring the cases to the Department of Health for the administration of antitoxin, as the families of the patients were too poor to pay for their attendance.

There has been from the beginning a continuous and marked improvement in the results obtained, in consequence, it is believed, of the increased experience in the use of this agent by the medical inspectors appointed to this duty, the earlier application of the treatment, the constant improvement in the character of the serum, and the larger dosage employed. During the first year the mortality among these cases was 17.9 per cent., and during the last twelve months it was 10.8 per cent., moribund cases included.

For the execution of the plan adopted for the free administration of antitoxin among the poor, the city was divided into districts, each district being placed in charge of a medical inspector, who is always on duty and liable to be called at any hour during the day or night. Requests for the administration of antitoxin are received at the office of the Department of Health from the attending physician, and immediately referred by police telegram or by telephone to the inspector in charge of the district in which the case occurs.

In a large majority of all cases treated only one injection of antitoxin was administered; in all severe cases since the end of the first year of the work the initial dose was large, varying from 2000 to 4000 units, experience showing that the best results were obtained from large initial doses, and the tendency has been to constantly increase the size of this dose. This experience is in direct confirmation of the conclusions reached in the experimental investigations on animals. As a rule, the patients were seen a second time at the end of 24 hours, and when it was considered necessary a second injection was then administered. They were afterward seen at intervals as seemed necessary, until the disease had terminated either in complete convalescence or death.

The serum employed has been generally of high grade, varying from 300 to 800 or more units in each c.c. Better results have been obtained with the use of high-grade preparations and with larger doses of antitoxin. In the earlier months, when large quantities of serum were administered,—the serum containing proportionately less antitoxin,—rashes were of frequent occurrence, and their frequency varied with different preparations obtained from different animals; but no reliable data as to the

percentage of cases in which they appeared are at command. There has been a marked diminution in the frequency with which rashes have occurred and in their severity since the use of the higher grade preparations, in which smaller doses of serum are employed. No case has come under observation in which any permanent injury could be properly attributed to the remedy.

The data as regards complications are incomplete, as in the class of patients treated—often the most ignorant of the foreign-born population under the conditions existing in the poorest tenement-houses—careful observations could not be made. In many instances, serious complications independent of diphtheria, such as scarlet fever, measles, and whooping-cough, acted as contributing or determining causes of death in the fatal cases—all such have been included. In all, with few exceptions, in which the clinical features were unmistakable, the clinical diagnosis was confirmed by bacteriological examination. In a few instances the result of the bacteriological examination was indecisive, while the case was evidently diphtheria, and these have been included. In others, bacteriological examinations showed clearly that the cases were false diphtheria, and all such have been excluded from the list. The usual practice has been, when a case was seen for the first time by the inspector (at the request of the attending physician), to administer an injection of antitoxin, if the disease seemed clinically to be diphtheria, and at the same time to make a culture from the throat for bacteriological examination, if a culture had not been previously made. The course subsequently pursued in each instance depended upon the results of the bacteriological examination.

When cases of diphtheria were seen in families in which there were other children, who had been exposed to the disease and when the parents would allow it, an immunizing injection was administered to each of the children and often to the adult members of the family. In most instances, recently, after immunizing injections have been administered, no attempt has been made to separate the case of diphtheria from the well members of the family, as experience showed that such separation was unnecessary. Altogether 5108 persons in tenement-houses have been immunized, from 200 to 800 antitoxin units being administered to each person. These persons were members of nearly 2000 different families, and among them there occurred within 24 hours 26 cases of diphtheria, of which one only—a patient with croup—died. Undoubtedly in these persons, the disease was already developing at the time of the administration of the antitoxin, and the amount administered—an immunizing dose— was not sufficient to completely check the disease. After 24 hours, and within 30 days, 23 cases occurred. All of these patients recovered with the exception of 1, who developed *scarlatina* and *diphtheria* on the *second* day after the immunization. This child died. After 30 days, so far as is known, 7 cases occurred, of whom two died, one on the 36th, and one on the 55th day, respectively, after the administration of the immunizing dose. In other words, in 5108 persons immunized in about 2000 families 4 deaths subsequently occurred—one from croup, which developed within 24 hours; one from scarlatina and diphtheria, which developed on the second day, and 2 from diphtheria, which developed, 1 on the 36th, and the other on the 55th day of the disease. The data regarding the occurrence of cases of diphtheria among those immunized after 30 days are probably not complete, as many of these cases were not subsequently followed.

The experience of the inspectors with immunization is quite in accord with that obtained from the immunization of children in various institutions in this city and elsewhere, and indicates that the protective influence of the immunizing injections can generally be depended upon to last from three to four weeks, although in many cases the period is apparently longer. The results have been better since somewhat larger doses have been administered. With the high-grade preparations of antitoxin now employed the amount of serum required for an immunizing injection is so small—varying from 5 to 15 minims according to the age of the patient and the strength of the preparation—as to be entirely unobjectionable. In the earlier work, when young and feeble infants were immunized, some restlessness, accompanied by more or less pyrexia, occurred in many cases during the first twenty-four hours, and not infrequently a rash appeared later.

The accompanying tables, I., II., III., IV., and V., give more complete data concerning the cases of diphtheria treated with antitoxin by the Department of Health Inspectors, January 1, 1895, to January 1, 1899.

I have also prepared a table showing the absolute number of deaths annually and the death-rates per 100,000 population from diphtheria and croup in several of the large cities of the world, notably, Paris, Berlin, and New York, where diphtheria antitoxic serum has been generally employed, which gives most striking testimony of the value of this remedy. In each of these great cities the death-rate has been reduced to less than one-half of the lowest death-rate recorded previous to 1894. In Paris the rate is about 30 per cent., and in New York about 29 per cent. of the rate for 1894. In

1894 there were 2870 deaths from diphtheria and croup in New York City; pneumonia and tuberculosis only exceeding diphtheria and croup in the number of deaths caused. In 1898 the deaths were 923; the number of cases of diphtheria and croup reported in 1898 is also below the number for any year since 1893, and the case fatality is lower, being 12.2 per cent., as contrasted with 40 per cent. for 1892, 36.4 for 1893, and 29.7 for 1894. The diminution in the actual number of deaths and the diminution in the death-rate per 100,000 population since 1894 has been greater in New York City than in any other great city in the world.

These data are in striking contrast with the conditions in London, where diphtheria antitoxic serum has been used to a very limited extent outside of the hospitals of the Metropolitan Asylums Board. While there has been some reduction in the number of deaths from diphtheria in London since 1893, it is inconsiderable. The present mortality is still greater than that in London previous to 1894, and is in great contrast with the reductions which have taken place in other great cities. Previous to 1894 there had been a very great increase in London in the notifications of diphtheria and croup and the deaths from these diseases. In 1893 there were the greatest number of deaths ever recorded—3484. Cobbett in a recent article has carefully analyzed the conditions, and has ascribed the difference in the results obtained with reference to this disease in London and on the Continent to several causes: 1st, the increasing prevalence of the disease in London in recent years; 2d, the severe type prevailing; 3d, the poor quality of the serum; 4th, the much less extensive use of the serum.

Dr. Goodall, however, commenting on the statistics given by Cobbett and the results of his calculations, gives the following table showing the percentage mortality of all cases of diphtheria in London City and in the Metropolitan Asylums Board hospitals since 1892:

	1892	1893	1894	1895	1896	1897
Fatality per cent. of all notified cases	23.8	24.5	24.7	21.2	19.4	17.4
Fatality per cent. of all notified cases admitted to M. A. B. Hospitals	24.8	27.1	25.5	18.3	17.7	14.9
Fatality per cent. of all notified cases not admitted to M. A. B. Hospitals	21.5	23.7	24.5	23.3	21.3	20.1
Percentage of notified cases admitted to M. A. B. Hospitals	31.1	24.5	38.8	41.5	39.9	51.4

"This table," Goodall remarks, "shows, but more emphatically than Cobbett's tables, that whereas the fatality of hospital-treated cases was up to 1894 greater than that for the whole of London, since that year the reverse has been the case. It also shows that the improvement in the fatality-rate is more marked in the hospital cases than in those not admitted to hospitals. It further shows that there has been some improvement in the fatality of cases not admitted to hospital. It is very uncertain that the improvement in these last cases is due to the use of antitoxin. Doubtless some cases are admitted to the general hospitals and are treated in them with serum. Possibly the improvement may be due to this fact; but, if so, it only emphasizes Cobbett's statement, to the effect that outside of hospitals the antitoxin treatment is little employed." Goodall says that from his own experience he knows this to be the case.

A reference should also be made to the remarkable results which have attended the use of diphtheria antitoxic serum in Chicago under the supervision of the Department of Health. During the month of November, 1898, according to the reports of the Department of Health for December, 1898, 168 cases of diphtheria were reported to the Department and examined bacteriologically. Of these 98, found to be true diphtheria, were treated with antitoxin. Four cases remaining over from the preceding month were also under treatment. Of the 102 cases 97 are reported as having recovered, 2 remained under treatment, and 3 died, giving a mortality of three per cent. in completed cases. Ten of the patients treated were intubated, so that diphtheria during the month was not of a mild form. Two of the 3 deaths were intubation cases, and all 3 of the fatal cases were first seen by the inspectors of the Department later than the fourth day. To this report for the month are appended the following details of the results obtained in Chicago since the original introduction of the antitoxin treatment by the Department in October, 1895: During the succeeding twenty-six months to date, the physicians of the Department have examined 5739 cases of suspected diphtheria. Of these 3956 were found to be true and all but 134 (treated by family physicians) were treated by the Department. Out of the 3822 cases thus treated 3763 recovered and 259 died, a mortality of 6.7 per cent. Before the introduction of antitoxin the mortality-rate of diphtheria in Chicago was thirty-five per cent. "At this rate there would have been 1337 deaths among the number actually attacked instead of 259—a clear gain of 1100 lives in a space of scarcely more than two years. Besides this there were 3633 persons immunized in families exposed to infection. Only 30 out of this number were subsequently attacked by the disease; they all

had mild attacks and recovered." It is estimated by the Chicago Board of Health that in twenty-six months there has been a saving to the City of Chicago, thanks to diphtheria antitoxin, of 1713 lives.

A consideration of the deaths and the mortality per cent. in the hospitals of Paris, Berlin, and London shows the same facts as the rates for the entire cities, the number of deaths and mortality per cent. in Paris and Berlin having been reduced to a third or less, while in London the reduction has been far less and the number of cases treated has nearly doubled.

The large reduction in the number of cases of diphtheria in New York in the last year as compared with the six years immediately preceding I believe to be due to several factors: First, the general use of antitoxin and the consequent diminished severity of the cases occurring. A severe case of diphtheria is far more likely to be a source of infection to others than a mild one, especially in the tenement-house districts, because the discharges from severe cases are so much more abundant, and the difficulty in destroying them is so much greater. Second, the use of antitoxin as an immunizing agent has largely decreased the number of secondary cases. Nearly 2000 persons, mostly children (who had been exposed to diphtheria), were immunized during the last year by the Department of Health, and the remedy has also been largely used for this purpose by private physicians. Third, the introduction by the Department of Health of the medical inspection of schools, and the greater care in the inspection of cases in tenement-house districts have both contributed to the result.

But not only has there been a great decrease in the deaths in the great cities, but the same has been found to be true in the smaller cities of France and Germany, where this subject has been carefully investigated. In 266 German towns, with a population of over 15,000, for nine years preceding 1895 the average deaths per 10,000 inhabitants was 106. In 1895 this fell to 53, in 1896 to 43, and in 1897 to 35, or less than one-third of the average for nine years previous to 1894.

Sidney Martin of London, in concluding a careful report on the results obtained from the use of antitoxic serum in the University College Hospital, London, in which the death-rate is shown to have diminished from 37 and 39 per cent., respectively, in 1893 and 1894 to 17 per cent. in 1897, and the death-rate in operative laryngeal cases from 65 per cent. to 26 per cent., says "the great reduction, both in the total and in the tracheotomy mortality can only be due to the treatment with antitoxic serum, for the examination of the cases revealed no other factor capable of producing this result." Martin recommends the use of very large initial doses, not less than 6000 normal units, and insists that it should be administered as soon as a suspicious throat is seen, without waiting for a bacteriological diagnosis of the disease. He also gives a table to show the diminished severity of the disease, and the shorter duration of the pyrexia when antitoxin is employed.

The conclusions of the Committee of the American Pediatric Society in reporting an investigation of the antitoxin treatment of laryngeal diphtheria in private practice need only be referred to. 1704 cases of laryngeal diphtheria were included in this report as treated with antitoxin, of which 668 were operated upon. Of these 182 died, giving a mortality of 27.2 per cent. Before the use of antitoxin it was estimated that 90 per cent. of the cases of laryngeal diphtheria required operation, whereas now only 39 per cent. require it. Previously 27 per cent. approximately represented the recoveries, while now 27 per cent. represents the mortality, exactly reversing the figures; in other words, before the use of antitoxin 27 per cent. recovered, while now 73 per cent. recover.

I desire to say a few words further in regard to the use of diphtheria antitoxic serum for immunization against diphtheria, for while the remedy is now universally employed throughout the world in the treatment of this disease it is much less generally employed as an immunizing agent. It was early employed in New York City, and has been more generally used here for this purpose than anywhere else in the world. The results here, however, have had ample confirmation in Europe. In the children's department of the Charitè Hospital, Berlin, where formerly patients frequently contracted the disease, owing to the want of efficient isolation, the systematic use of immunizing injections was introduced three years ago. Since January, 1896, patients have even received injections every three weeks, as it was found that the resulting immunity could not be depended upon for a much longer period than this. The result has been that no child thus immunized has contracted the disease; this fact seems more remarkable because it was found that the diphtheria bacilli were present in the throats of nearly one-quarter of the children who were examined during a period of 5 months.

In order to ascertain whether the resulting immunity was due to the injections, or to some other influence, the injections were stopped in October, 1897. Shortly afterward, namely, early in November, a child three and a half years of age, suffering from Bright's disease, developed laryngeal diphtheria and died. A little later two other children in the same ward were attacked with typical

pharyngeal diphtheria, and a fourth child, who had been admitted for measles early in October, developed croup. These last three patients recovered after the injection of diphtheria antitoxin. After this experience the immunizing injections were resumed, and no further cases of diphtheria have occurred. The experiences previously reported in institutions in this city give exactly parallel results.

I shall only refer the reader to the accompanying tables for the results in the laryngeal cases treated by the inspectors of this city, although in many respects these afford the best test of the efficacy of the antitoxin treatment.

From the statistics presented it is apparent that the mortality from diphtheria and croup, which was so markedly reduced on the introduction and in consequence of the use of antitoxin, has continued to decrease in proportion as the remedy has been more generally employed. It would be useless at this time to multiply statistics on this subject, which on the largest scale, and from the most diverse sources have given affirmative evidence of the value of antitoxic serum in the treatment of diphtheria. It is not easy to understand the mental attitude of those who still continue to oppose the antitoxin treatment of diphtheria in the face of the enormous mass of evidence in its favor. Whatever may be said of statistics in general, no practitioner who examines impartially the reports published by the New York City Department of Health, and reads the wholly unprejudiced and impersonal collective investigations instituted by the American Pediatric Society, by the Berlin Society for Internal Medicine, and the Kaiserliches Gesundheitsamt, and the exhaustive and elaborate statistical studies issued by the medical superintendents of the hospitals of the London Asylums Board can fail to be convinced of the specific value of this remedy.

TABLE. I.

Cases of diphtheria treated with antitoxin by the Department of Health, January 1, 1898, to January 1, 1899, with a summary of cases treated, January 1, 1895, to January 1, 1899.

Total cases of true diphtheria injected with antitoxin by the Medical Inspectors of the Department of Health, showing the number of cases injected and the mortality percentage.

	Cases.	Deaths.	Mortality Per Cent.
Jan. 1, 1898, to Jan. 1, 1899	626	68	10.8
Moribund deducted	21	....	....
Remaining	605	47	7.7
Jan. 1, 1895, to Oct. 1, 1896	1,252	198	15.8
Moribund deducted	80	....	....
Remaining	1,172	118	10.0
Oct. 1, 1896, to Jan. 1, 1898	1,195	163	13.6
Moribund deducted	71	...	....
Remaining	1,124	92	8.1
Total cases, Jan. 1, 1895, to Jan. 1, 1899	3,073	429	13.9
Moribund deducted	172	....	....
Remaining	2,901	257	8.8

TABLE II.

Cases of laryngeal diphtheria treated with antitoxin by the Department of Health, January 1, 1898, to January 1, 1899, with summary of cases treated January 1, 1895, to January 1, 1899. Total cases of laryngeal diphtheria injected with antitoxin by the Medical Inspectors of the Department of Health, showing the number of cases injected, and the cases, deaths, and mortality percentage in both operative and non-operative cases.

	Laryngeal Cases.			Non-operative Cases.			Operative Cases (Intubation.)		
	Cases.	Deaths.	Mort. Per cent.	Cases.	Deaths.	Mort. Per cent.	Cases.	Deaths.	Mort. Per cent.
Jan. 1, 1898, to Jan. 1, 1899	185	32	17.3	125	14	11.2	60	18	30.0
Moribund deducted	11	....	....	7	....	....	4	....	....
Remaining	174	21	12.0	118	7	7.0	56	14	25.0
Jan. 1, 1895, to Oct. 1, 1896	355	108	30.4	283	79	27.9	72	29	40.2
Moribund deducted	38	....	....	34	....	....	4	....	....
Remaining	317	70	22.4	249	45	17.9	68	25	36.7
Oct. 1, 1896, to Jan. 1, 1898	286	78	27.2	214	51	23.8	72	27	37.4
Moribund deducted	45	....	....	31	....	....	14	....	....
Remaining	241	33	13.7	173	20	11.6	58	13	22.4
Total Cases, Jan. 1, 1895, to Jan. 1, 1899	826	218	26.4	622	144	23.1	204	74	36.2
Moribund deducted	94	....	....	72	....	....	22	....	....
Remaining	732	124	16.9	550	72	13.1	182	52	28.1

TABLE III.

Cases of diphtheria treated with antitoxin by the Department of Health, arranged according to age, January 1, 1898, to January 1, 1899, with summary of cases treated, January 1, 1895, to January 1, 1899.

	0-1 year.	1-2 years.	2-3 years.	3-4 years.	4-5 years.	5-10 years.	Over 10 years.	Total.	Moribund deducted.	Remaining.
Jan. 1, 1898, to Jan. 1, 1899...										
Cases	23	90	120	102	81	175	35	626	21	605
Deaths	1	14	20	9	8	15	1	68	....	47
Mortality per cent.	4.3	15.5	16.6	8.8	9.8	8.6	2.8	10.8	...	7.7
Jan. 1, 1895, to Oct. 1, 1896...										
Cases	74	214	252	189	182	260	81	1252	80	1172
Deaths	21	51	43	30	26	26	1	198	....	118
Mortality per cent.	28.3	23.8	17.0	15.9	14.2	10.0	1.2	15.8	....	10.0
Oct. 1, 1896, to Jan. 1, 1898...										
Cases	61	184	202	191	135	331	91	1195	71	1124
Deaths	13	34	42	23	16	33	2	163	....	92
Mortality per cent.	21.3	18.4	20.5	12.0	11.8	9.9	2.2	13.6	...	8.1
Total Cases. Jan. 1, 1895, to Jan. 1, 1899...										
Cases	158	488	574	482	398	766	207	3073	172	2901
Deaths	35	99	105	62	50	74	4	429	....	257
Mortality per cent.	22.1	20.3	18.3	12.9	10.0	9.6	1.9	13.9	....	8.8

TABLE IV.—Cases of diphtheria treated with antitoxin by the Department of Health, arranged according to day of disease on which treatment was begun, January 1, 1898, to January 1, 1899, with summary of cases, January 1, 1895, to January 1, 1899.

	1st Day.		2d Day.		3d Day.		4th Day.		5th Day or Later.		Day Unknown.		Total.		Mortality Per cent.
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Jan. 1, 1898, to Jan. 1, 1899..	69	0	183	8	148	21	88	13	137	26	1	0	626	68	10.8
Mortality per cent.....	...	0.0	....	4.3	....	14.2	....	14.7	...	19.0	....	0.0	....	10.8	....
Moribund deducted.....	0	....	2	....	4	....	4	....	11	....	0	....	21	....	....
Remaining.....	69	0	181	6	144	17	84	9	126	15	1	0	605	47	7.7
Mortality per cent.....	....	0.0	....	3.3	....	11.8	....	10.7	....	12.0	....	0.0	....	7.7	....
Jan. 1, 1895, to Oct. 1, 1896..	157	11	331	30	293	42	197	39	262	72	12	4	1,252	198	15.8
Mortality per cent.....	....	7.0	....	9.0	....	14.3	....	20.0	....	27.4	....	33.3	....	15.8	....
Moribund deducted.....	5	....	14	....	17	....	15	....	25	....	4	....	80	....	....
Remaining.....	152	14	217	16	276	25	182	24	237	47	8	0	1,172	118	10.0
Mortality per cent.....	....	4.0	.. .	5.4	....	9.0	....	13.2	....	20.0	....	0.0	....	10.0	....
Oct. 1, 1896, to Jan. 1, 1898..	120	2	253	6	257	23	198	29	359	101	8	2	1,195	163	13.6
Mortality per cent.....	....	1.6	....	2.3	....	8.9	....	14.6	....	27.8	....	25.0	....	13.6	....
Moribund deducted.....	1	....	1	....	5	....	16	....	46	....	2	....	71	....	....
Remaining.....	119	1	252	5	252	18	182	13	313	55	6	0	1,124	92	8.1
Mortality per cent.....	....	0.8	....	1.9	....	7.1	....	7.1	....	17.5	....	0.0	....	8.1	....
TOTAL CASES.															
Jan. 1, 1895, to Jan. 1, 1898..	346	13	767	44	698	86	483	81	758	199	21	6	3,073	429	13.9
Mortality per cent.....	....	3.7	....	5.6	....	12.4	....	16.9	....	26.2	....	28.6	....	13.9	....
Moribund deducted.....	6	....	17	....	26	....	35	....	82	....	6	....	172	....	....
Remaining.....	340	7	750	27	672	60	448	46	676	117	15	0	2,901	257	8.8
Mortality per cent.....	...	2.5	....	3.6	....	8.9	....	10.2	....	17.3	....	0.0	....	8.8	....

TABLE V.

Immunization with antitoxin by the Department of Health Inspectors, January 1, 1898, to January 1, 1899, with summary of cases immunized, January 1, 1895, to January 1, 1899.

Table of cases immunized with injections of antitoxin in families where diphtheria had occurred, showing the number of cases immunized, the number of cases which occurred after thirty days and within twenty-four hours after injection, and those which occurred within thirty days after injection.

No. of Cases Immunized.	No. of Cases of Diphtheria within 30 days after Injection.	No. of Cases of Diphtheria within 24 hours and after 30 days after Injection.
Jan. 1, 1898, to Jan. 1, 1899. 1,408 Cases.	1 on the 7th day, moderately severe, recovered. 1 on the 3d day, mild, recovered. 1, no day stated, mild, recovered.	
Jan. 1, 1895, to Oct. 1, 1896. 1,207 Cases.	1 on the 7th day, 1 on the 10th day, 5 on the 19th day, 1 on the 23d day, 1 on the 30th day, Mild, recovered. 1 on the 5th day, severe, recovered. 1 scarlet fever and diphtheria, died on the 2nd day.	
Oct. 1, 1896, to Jan. 1, 1898. 2,493 Cases.	2, no day stated, 2 on the 7th day, 2 on the 8th day, 1 on the 9th day, 1 on the 12th day, Mild, recovered. 1 on the 30th day, moderately severe, recovered.	

TABLE V.—*Continued.*

Jan. 1, 1895, to Jan. 1, 1899. 5,108 Cases.	19 mild, recovered. 3 severe, recovered. 1 scarlet fever and diphtheria, died on the 2d day.	Within 24 hours. 15 mild, recovered. 10 severe, recovered. 1 croup, died. After 30 days. 3 mild, recovered. 4 severe, recovered. 2 septic, died on 55th and 38th day, respectively

NOTE TO TABLE V.: There were, in all, 1538 families in which one or more cases of diphtheria had occurred previous to immunization. Out of a total of 5108 cases immunized during the four years, 1895 to 1899, only 3 deaths from diphtheria occurred, 1 developing on the second day after immunization of scarlatina and diphtheria, and 2 septic cases on the fifty-fifth and thirty-eighth days, respectively, after immunization; 25 cases of diphtheria which occurred within twenty-four hours, 22 cases within thirty days, and 7 cases after thirty days after injection, in all 54 cases, recovered.

On October 1, 1895, arrangements were made to enable physicians to obtain supplies of antitoxin free for use among patients too poor to pay for the remedy, on condition that reports of the cases thus treated should be furnished to the Department of Health. Druggists acting as agents for the sale of antitoxin were instructed to furnish the remedy free to any physician upon his statement that the patient for whom it was intended was not in circumstances to pay for it. A blank was furnished upon which the history of the case could be filled out by the attending physician upon the termination of the case, either by death or recovery. This arrange-

ment, not very generally known or utilized by physicians at first, has come more and more into use until now a large number of cases of diphtheria are treated by physicians with antitoxin furnished free to poor patients.

TABLE VI.

Cases of diphtheria treated by physicians with free antitoxin, collated from the reports of the attending physicians, January 1, 1898, to January 1, 1899, with summary of cases treated, October 1, 1895, to January 1, 1899.

	Cases.	Deaths.	Mortality Per cent.
Jan. 1, 1898, to Jan. 1, 1899	868	138	15.9
Moribund cases deducted.	60	....	....
Remaining	808	78	9.6
TOTAL CASES.			
Oct. 1, 1895, to Jan. 1, 1899	2,112	373	17.6
Moribund cases deducted.	143	....	....
Remaining	1,969	230	11.7

NOTE TO TABLE VI.: From January 1, 1898, to January 1, 1899, there were treated with free antitoxin 868 cases, with 138 deaths, giving a mortality of 15.9 per cent.; of these 60 were moribund at the time of or died within twenty-four hours after the first injection; deducting these the mortality was 9.6 per cent. Of the total cases treated with free antitoxin from October 1, 1895, to January 1, 1899, *viz.*, 2112, 373 died, giving a mortality for the three years of 17.6 per cent. Deducting 143 moribund cases the mortality was 11.7 per cent.

Altogether 2511 cases of suspected diphtheria were injected with free antitoxin, October 1, 1895, to January 1, 1899, but 399 of these are excluded from the statistics, either because on culture examination no diphtheria bacilli were found, or because they were transferred to the Willard Parker Hospital; and thus passed from observation, or because the data furnished were insufficient for tabulation.

Of the 2112 cases included in the statistics, 1458 were bacteriologically confirmed to be true diphtheria; of these 180 cases died, or 12.3 per cent. Of the 654 cases not confirmed by bacteriological examination, but proving to be clinically undoubted diphtheria, 173 died, or 26.5 per cent. Many of these were moribund at the time of the first injection.

TABLE VII.

Cases of laryngeal diphtheria treated by physicians with free antitoxin, January 1, 1898, to January 1, 1899, with summary of cases, October 1, 1895, to January 1, 1899.

	Total Laryngeal Cases.			Non-operative Cases.			Operative Cases.		
	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.
Jan. 1, 1898, to Jan. 1, 1899	292	84	28.7	209	48	22.9	83	36	43.3
Moribund deducted.	40	....	....	29	....	....	12	....	....
Remaining	252	44	17.4	181	20	11.0	71	24	33.8
TOTAL CASES.									
Oct. 1, 1895, to Jan. 1, 1899	748	227	30.3	529	139	26.2	219	88	40.2
Moribund deducted.	98	....	....	67	....	....	31	....	....
Remaining	650	129	19.8	462	72	15.6	188	57	30.3

TABLE VIII.

Absolute annual deaths and death-rates for 100,000 population from diphtheria and croup in Paris, Berlin, and New York (Manhattan and Bronx) from 1886 to 1898 inclusive.

	Paris.		Berlin.		New York.	
	Absolute Deaths.	Death rate per 100,000 population.	Absolute Deaths.	Death rate per 100,000 population.	Absolute Deaths.	Death rate per 100,000 population.
1886	1,524	73.2	1,662	125.7	2,695	187.5
1887	1,564	76.9	1,392	100.7	3,056	206.6
1888	1,718	83.7	1,195	76.1	2,553	167.7
1889	1,706	79.9	1,210	85.6	2,291	146.2
1890	1,639	77.5	1,601	102.0	1,783	110.6
1891	1,363	63.0	1,342	67.5	1,970	118.7
1892	1,398	63.6	1,637	92.5	2,106	123.3
1893	1,262	51.4	1,416	100.8	2,558	145.5
1894	993	40.7	1,321	86.7	2,870	158.4
1895	435	17.8	987	59.2	1,976	105.2
1896	444	17.6	559	30.4	1,763	91.2
1897	351	13.8	546	31.5	1,590	79.9
1898	301	12.0	652	32.4	923	45.1

NOTE: The figures for 1897 and the first half of 1898 in Paris and Berlin are taken from the monthly reports, while the latter half of 1898 is estimated from the weekly reports. The rest of the data are taken from the annual reports.

It will be seen from an examination of this table that the average number of deaths from diphtheria and croup in Paris and Berlin for the preantitoxin period (1886 to 1895) was 1463 and 1419 respectively, whereas for the antitoxin period (1895 to 1899) it was 383 and 626, or less than one-half. In New York City antitoxin has not been so generally used as in the other two cities until the last year. But the average number of deaths from diphtheria and croup in New York from 1886 to 1895 was 2654, while from 1895 to 1899 it fell to 1563, and in 1898 it was only 923. The fall in the death-rate from this disease since the introduction of antitoxin is equally conspicuous, estimated per 100,000 of the population.

Diphtheria has always been much more prevalent in the great cities of this country, and especially New York, than in the capitals of Europe, and the death-rate per 100,000 of the population has always been and still remains much higher. The diminution in the death-rate, however, in 1898, as compared with 1894, is greater in New York than in either Paris or Berlin, or any great city of Europe. The case fatality, too, is as low or lower than that of any other great city. The great prevalence of the disease in New York is no doubt due to the great density of the population and the character of the housing of the tenement-house population, which is more favorable to the extension of infectious diseases than that of any great city of the world.

TABLE IX.

Diphtheria and croup in New York City from 1891 to 1898 inclusive, showing cases, deaths, and case fatality.

	Cases.			Deaths.			Case Fatality.	
	Diphtheria.	Croup.	Total.	Diphtheria.	Croup.	Total.	Diphtheria.	Diphtheria and Croup.
1891	4,874	490	5,364	1,361	609	1,970	27.9	36.7
1892	4,654	530	5,184	1,436	670	2,196	30.9	40.6
1893	6,468	553	7,021	1,970	588	2,558	30.4	36.4
1894	9,155	486	9,641	2,359	511	2,870	25.8	29.7
1895	9,925	428	10,353	1,634	342	1,976	16.4	19.1
1896	11,095	306	11,399	1,555	208	1,763	14.0	15.4
1897	10,496	400	10,896	1,376	214	1,590	13.1	14.6
1898	7,213	380	7,593	788	135	923	10.9	12.2

NOTE: Previous to 1891 croup, not being classed as a contagious disease, was not reported to the Health Department. In January, 1895, the distribution and use of antitoxin produced by the New York Department of Health was begun, but antitoxin did not come into general use in the city until 1896.

TABLE X.

Cases, deaths, and mortality percentage of all cases of diphtheria in the hospitals of Paris, Berlin, and London from 1893 to 1898.

	PARIS HOSPITALS.			BERLIN HOSPITALS.			LONDON HOSPITALS.		
	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.
1893	1,882	968	51.4	2,450	951	38.8	2,848	865	30.3
1894	2,355	837	35.5	2,890	801	27.7	3,666	1,035	28.2
1895	2,664	363	13.6	3,061	484	15.8	3,685	820	22.2
1896	2,363	360	15.2	2,138	285	13.3	4,508	948	21.0
1897	1,683	253	15.0	1,937	263	13.5	5,673	987	17.4

NOTE: The statistics for 1898 have not been published in full, and are, therefore, omitted. Antitoxin was introduced into the hospitals of Paris and Berlin toward the end of 1894, but was not generally employed until 1895. In the hospitals of the Metropolitan Asylum Board of London antitoxin was not introduced until 1895.

(To be continued.)

LIGHT AND AIR IN THE TREATMENT OF CONSUMPTION IN COLORADO.[1]

BY CHARLES FOX GARDINER, M.D.,
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IN the etiology of pulmonary tuberculosis one fact stands out more clearly and is proved more positively than any other, and that is the enormous influence such simple factors as light and fresh air have upon the development of this disease. In fact from the dawn of human history this influence has been noted,[2] and all human experience as well as scientific research have demonstrated that consumption is a disease of the indoor domestic animal, man included, and that when air and light are curtailed, then consumption begins to strike down those who from deficient lung power are least fitted to survive. Another fact now proved beyond question is that reversing the greatest predisposing cause (a lack of air and light), and supplying the air and light to excess, we have the most powerful weapon now known with which to fight and conquer this widespread and destructive disease. Even nutrition, important and powerful as it certainly is in treating the tubercular, must hold second place to light and air. I have seen hundreds of range cattle exposed to air and light dying of starvation and cold and never a case of tuberculosis among them; while, on the other hand, cattle from the same herd, sheltered, well fed and cared for, do occasionally develop the disease. It seems to me that, in the face of such strong evidence as we can now show as to the value of air and light in curing consumption (a remedy far more effectual than all other agents taken together), the average physician passes over them with scant notice, and the brief order to the patient, "Be out all you can," results in but a small daily dose of fresh air—a quantity entirely too limited for the result desired. That this is a mistake, and that the most efficient remedy we have for consumption should be used with care, system, and in heroic doses, is very clearly shown by the results obtained in the sanatoriums both in this country and abroad.[1]

When used as a cure the qualities of the air should be considered; these depend upon climatic conditions, and to state, as some men have, that, conditions being equal in other respects, climate is of little importance is not true or logical. As the dose and purity of a drug determine its favorable action upon the diseased condition it is intended to cure, so the dose and purity of the air and light, used as a cure, determine their efficient action in consumption. Any student of climatology knows that air and light differ materially in available dose and purity, even in narrow geographical limits, while a more extended view shows us climatic changes much more intense and radical. Air ought to be (1) pure—free from dust and germs;[2] (2) dry and thin—to favor chest expansion, to give greater supply of blood to the lungs and increased richness to the blood, and also to permit greater penetration of solar rays, thus limiting tubercular infection from others;[3] (3) cool—to act as a stimulant; (4) and with an excess of ozone and electricity.[4]

[1] Read at the sixteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

[2] Aryteus Celus, "Treatment of Consumption."

[1] Otis, "Hospitals and Sanatoria for Consumption Abroad," *Boston Med. and Surg. Jour.*, p. 22, 1898.

[2] *Tuberculosis and Altitude.* — In a recent work published in Mexico (*La Vie sur les Hauts Plateaux*), which won the Hodgkins' prize of the Smithsonian Institute, Herreta and Lope devote a chapter to the treatment of tuberculosis by altitude, noteworthy in many respects. They find that statistics show that not only in men but in lower animals tuberculosis is decreased in high regions. In 1885, out of 73,000 cattle killed in the general abattoir of the City of Mexico, only forty-five were tuberculous. This favorable effect they attribute to the higher solar illumination in high altitudes and the dryness and coolness of the atmosphere as working against the existence of microbes. The benefits of rarefied air in consumption are given by the authors from their experimental and other observations, as follows: (1) Lessening pressure increases the circulation of air in the lungs, dilates them and obliges torpid parts to functionate. (2) Lessening pressure determines a greater quantity of blood in the lungs. (3) Lessening pressure permits a uniform distribution of blood, regulates its circulation and combats congestion. (4) Lessening pressure diminishes intrapulmonary tension in general and particularly intravascular tension. (5) Augmentation of red and white globules. (6) Desiccation of mucous surfaces; the favoring of evaporation, besides experiments on animals, observations of actual cases of tuberculosis, treated by rarefied air, are reported by the authors. Of 13 patients thus treated only 1 lost weight, 1 remained stationary, and 11 notably increased, 1 increasing 300 grams in one day. In none, either healthy or tuberculous, were the alarming symptoms described by Paul Bert experienced.

[3] Gardiner, *Amer. Jour. of the Med. Sciences*, 1892 and 1897.

[4] Braithwaite's "Retrospect of Medicine," p. 239, 1899.

Light should be sunshine, or directly diffused from it, and with as little cloudy or white light as possible. With these qualities of light and air, we have at our command the most powerful agents known for the cure or arrest of pulmonary phthisis, and these perfect atmospheric conditions are found only upon the dry, high plateaux of the world. Some of the qualities spoken of are found at the seashore, some in low elevations, as in a desert atmosphere; but for all the qualities mentioned in both light and air, altitude and dryness must be present. The effects of sunlight upon germ life are well-known to all, and recent observations have shown that a partial absence of light tends to, and even does, develop consumption, when the air supply and other conditions remain the same.[1] Then, too, the direct solar rays are now known to penetrate live tissue and exert their influence as germicides. Experiments by Koch, Downs, Blunt, Duclaux, Esmarch, and Arloing are cited by Abrams—all tending to show the power and penetration of solar rays, their effect as a stimulant of cellular life of plants and animals in health and disease, and their power as a cure. There is also good reason to believe that the solar rays pass through ordinary clothing and have a stimulating effect upon capillary circulation, and nerve endings.

A climate which has all the qualities of light and air that I have mentioned, ought to present ideal climatic conditions for the cure of consumption. In Colorado these climatic conditions do exist. Not only is there an average of fifty per cent. more sunshine every day in Colorado than in any State east of the Mississippi River, but the soil, temperature, and dryness of the air permit the pulmonary invalid to take advantage of these conditions. A simple experiment illustrates atmospheric light penetration in Colorado: expose several films in a camera (time exposure), and then under the same conditions in regard to films, time, sunlight, etc., expose the other half of the films at sea-level, or at the seashore, and the latter set of films will be found to be fogged from under exposure, the more dense air not allowing light to penetrate as easily as in Colorado. It is probably this property in the air of Colorado (dermithisity or thinness) that removes color so rapidly from all dyed fabrics, tans the exposed skin so easily, and allows the sun and diffused light to act so powerfully as a germicide. The practical point is to utilize this light and air in the best possible way for our patients in Colorado, or in all sections of the country having these climatic advantages.

To ascertain the time spent out of doors by the average invalid in Colorado Springs I have departed somewhat from the method of making meteorological tables, which show merely the number of days suitable for him to be out, and have compiled a list giving the time an average invalid actually spends in the open air. Meteorological tables, no matter how carefully compiled, give but a limited idea as to certain climatic details. Temperature is frequently misleading, as in Colorado the dry air allows an outdoor life at temperatures that would in a more humid climate be impossible or dangerous, while such climatic factors as dust are not noted in ordinary tables; and so on. This chart has been compiled from an average of observations taken during the time from December 16, 1898, to April 19, 1899. This was to make as severe a test as possible, as it is during these months we have in Colorado our most inclement weather. As last winter and spring were of unusual severity, in fact from all I can learn, the worst weather for any length of time of which we have a record, one can see that in this chart no flattering picture is drawn regarding our winter weather. By average invalid I mean those who are too ill to exercise by horseback-riding, cycling or golfing, or even walking, except very slowly, and yet are able to be up and about, and to spend considerable time out of doors, provided they are protected and can sit or lie down. The time spent out doors can be regulated to a fine point in a sanatorium, but I refer to invalids who are in their own homes, in hotels or boarding-houses. I tell these patients, as most doctors do, that they must be out all they possibly can. I specify the hours and arrange the details of shelter, etc., selecting the winter months, as that is the season when an open air life become so necessary to the pulmonary invalid, for he feels the cold and will instinctively choose the warm and often close air of a room, inhaling furnace gas, dust, and germs. In summer it is, on the contrary, an easy problem to induce patients to live an outdoor life; then all nature beckons to one, and even indoors the air is fairly pure by comparison, owing to the open doors and windows and the absence of artificial heat. I find that the average invalid spends outdoors daily about five hours, either on a piazza, driving, or at times walking a little. If the air and light are as important curative agents as I have stated, then five hours daily outdoors are not enough; we should aim at twenty-four hours. If we desire the best results we cannot afford to waste a single hour in fighting such a disease as tuberculosis. Few people realize the vast difference that exists between a so-called well-ventilated room and the open air; the former is enough to kill an Indian.[1]

[1] Robinson, "Climatology of Nudity," *Trans. Amer. Climatological Asso.*, p. 233, 1898.

[1] "Environment in Its Relation to the Progress of Bacterial Invasion in Tuberculosis," *Amer. Jour. of the Med. Sciences*, July,

The experience of one who has just returned to his ordinary habits from a life of several weeks spent entirely in the open air illustrates this. No matter how well ventilated the room in which he sleeps, it will seem close and a cold in the head is apt to result. A simple experiment seems to me to bear closely on this subject. Take a piece of fresh venison or any meat and hang half of it in a room protected by fly screens, hanging the other half on top of a pole in the open air in the sun; even if this is done in the months of July or August the meat outside will remain fresh for weeks, while the meat in the room will spoil in a day or two. This is, of course, in Colorado, but I think the analogy between this meat-test and a septic process in the lungs a very close one. The piazza life in Colorado can be made most attractive and comfortable, and a piazza can be arranged, as one in my house is, with a stove and blinds, furnished with rugs, bed, etc., and enclosed with glass on the north. In this way we offer an inducement to be out of doors, it is not taken as a task, and the nights also can be spent in pure air.

A life on a ranch in Colorado would seem to offer to the invalid an ideal method of being in the air and light, and I have at present some patients who are certainly improving rapidly on ranches. But they do not represent the average invalid, as they are selected cases, especially adapted for the life, with youth, strong digestion, and entire absence of fever, making the experiment worth the risk. I practised medicine at one time for several years among ranches in Colorado, Wyoming, and parts of Utah, and my experience has been that it is all a well man can do to digest the food that is eaten on most ranches, since it is with hardly an exception poor food, poorly cooked. Ranch houses, too, are built without regard to sanitation, while the temptations to overexertion, exposure, etc., are constant. Their isolation is to many a great drawback, meaning, as it does, the difficulty of obtaining medical advice if taken suddenly ill; and no amount of fresh air can compensate for such disadvantages. The life in a boarding house or in their own homes, with the constant use of the piazza, is probably the most practical arrangement for the greatest number of invalids and is the plan used by at least ninety per cent. of all invalids in Colorado Springs.

I consider that for a certain number of patients a life in a tent is really the nearest approach to the ideal life for a consumptive; I mean of course, with careful selection of the patient for such a life, and then a careful selection of tent, camping-site, etc., so essential to success. To most people a tent simply means what is ordinarily used in camping out, and it is this limited knowledge of tents that has brought them into disrepute with many physicians. The tent generally used is too low, made of thin duck, often without a floor, without proper artificial heat and is pitched in the open, becoming like an oven in the Colorado sunshine. Above all, such a tent has no proper system of ventilation and this is important, since a tent never ventilates itself by air coming through the canvas, as some people seem to think. The tent I have in mind is the result of considerable evolution in tent building, and although I have not yet been able to demonstrate its use with a large number of patients, I have myself lived in it both in summer and in winter, during rain and snow storms and for several weeks at a time. It is made of very heavy duck (12 oz.), is circular in shape, 18 feet high, 16 feet in diameter at the floor, with a wall 5 feet, 6 inches high. The top terminates in an iron ring 1 foot in diameter, to which the canvas is fastened, thus forming an outlet for heated air always open. The tent is supported by a center pole to which the ring is attached, and the tent can thus be elevated or lowered or its tension changed from within by pulleys. The floor is raised 8 inches from the ground, and is in 8 sections, thus being easily moved. The lower edge of wall is fastened several inches below the floor, 1 inch from it all around; this is to provide at all times an inflow of air that is gradual and without a draught, since this inch space in a circular tent represents an area of about 600 square inches, and the hole in the top for outflowing air some 123 square inches. In this way the tent cannot be close and is ventilated automatically and constantly. In other words, it is a circular tent, the bottom of the canvas forming a circle around the wooden floor but one inch from it all around and a little below the floor. This open space between floor and sides of the bottom of the tent allows air to flow into the tent at all times, while the hole at the apex or top of the tent allows air to flow out all the time. In this way the tent always ventilates itself day or night, with door shut or not, or when heated or not, or in any weather.

As the air has to turn a corner to enter the tent, it cannot come as a draught and as it enters through all the inch space surrounding the tent it enters slowly and without force, being evenly distributed but coming through collectively a large area, 600

1891. Also *Trans. Col. State Med. Soc.*, p. 321, 1894. Dr. Bull: "I have attended the Indians both here among the Sioux and in Idaho among the Bannocks. I have known many agency physicians and have talked with them. All agree that the older Indians say that they did not have consumption among them when they lived in tepees and in the open air. But as civilization advanced among them the Government has constructed log cabins and small frame houses for them, and they have given up the tepee for a short time in the hottest weather in summer. Now we have consumption the most prevalent disease. More than half of the deaths are from it."

square inches. The tent is easily heated by a wood or coal-stove, and yet in warm weather the constant interchange of air keeps it cool even without a fly. This tent should be fitted up in every way like a room. Cooking need not be done in it, but can easily be provided for at some house near by. Such a tent can be lived in for at least eight months in the year in Colorado at 6000 feet altitude, and in winter can be transported, if necessary, to some warmer climate south. The advantages of tent life are plenty of fresh air and diffused light, all of the twenty-four hours taken without effort. The psychological effects of such a life cannot be told here, but that it is a constant mental rest, that the novelty charms, and that a certain something, possibly the awakening of the hunting and migratory instinct inherited from countless generations of primitive ancestors does affect beneficially the nervous system of the phthisical is undoubted.

The points I have endeavored to emphasize are that light and air are to-day the most powerful agents we have for the cure of pulmonary consumption; that this fact is often overlooked, and that attention is paid to cures of much less value; that the most perfect qualities of light and air are only found on high, dry plateaux of over 4000 altitude, and that, under such climatic conditions, not only is the quality of light and air more perfect than elsewhere, but the available quantity taken is in excess, as it is practical for the patient to be out and obtain it; that if possible a pulmonary invalid should be out doors every hour of the twenty-four, as indoor air is not a cure for phthisis, and that a piazza life can be arranged for and made as comfortable as in a room. Ranching, as generally utilized, is a dangerous life for the average invalid, owing to bad food, exposure, over exertion, etc. A selected number of patients can be induced with benefit to live a tent life provided the tent is properly selected and managed on the plan I have suggested. Thus, while avoiding the ills of civilization from which our patient is escaping, we so control the new environment of nature as to avoid all its dangers, and obtain all its benefits.

CLINICAL MEMORANDUM.

ARREST OF DEVELOPMENT; SPINA BIFIDA, AND CLEFT PALATE.

BY W. A. McFARLANE, M.D.,
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Spina Bifida.—In looking up the literature on this subject, I find that nearly every article deals with the surgical treatment of this affection without much reference to its etiology. The following cases have some points of interest:

Mrs. X., aged twenty-four years, married, primipara, on August 5, 1883, gave birth to a female child that presented a tumor in the lower dorsal region of the spine. The babe died in convulsions four days later. During the sixth week of gestation the mother had received a severe injury to the spine by having a chair pulled from under her as she was about to sit down. This injury afforded a very good explanation for the cause of the deformity of the child.

On October 18, 1886, she gave birth to a second daughter who was deformed in the same manner as the first. The child lived two weeks and died of exhaustion. The mother had complained of some pain in her back during her second pregnancy, due probably to the injury which she received while carrying her first child, for she had not met with an accident during her second pregnancy. I attended her in her second confinement, but not in the first. In the case of the second child the tumor was situated in the lower dorsal region, was about 2½ inches in length by two in width, and was elevated above the surrounding tissues about three-fourths of an inch, was transparent, and of a dark-reddish or purple color.

I applied a truss with a concave pad, simply for the purpose of protection. This comprised the treatment, the parents objecting to any operation. The father and mother were very much disappointed in the result of this pregnancy, and I was immediately called upon for an opinion as to the possibility or probability of their ever having a child that would be all right. My experience was insufficient, neither could I find anything in books nor journals that would warrant me in giving advice either way. In my dilemma I counseled with Dr. Skene of Brooklyn, my former teacher, stating all the facts in my possession, and his reply was "to try again, for she might do better next time." He also advised the use of the syrup of the iodid of iron when she became pregnant again, during the second, fourth, sixth, eighth, and ninth months. When she became pregnant again this treatment was adopted and carried out. On May 14, 1890, I had the satisfaction of delivering her of a female child, perfect in every way.

To add to the difficulties of deciding this important question there was a family history which was not good. A sister and her daughter had heart disease, and in the daughter's case was probably congenital. She afterward died of chronic Bright's disease at the age of sixteen years. A brother's child was born with an amputation of the left forearm near the elbow.

Dr. John Ashhurst, in Pepper's "Practice," mentions the fact that Salzman observed spina bifida in two children born of the same mother, and Camper noticed it in twins. Dr. L. Emmett Holt of New York reports a case in the *New York Medical Journal*, Vol. 46, in which the first and second child had spina bifida, the mother afterward giving birth to a healthy well-formed child. No statement is made, however, in regard to her treatment. In the *Medical and Surgical Reporter*, Vol. 58, Dr. Samuel Wolf of Philadelphia reports a case in which the mother gave birth to two children having the malforma-

tion. He outlined a plan of treatment which consisted in a careful regulation of the diet, the administration of hypophosphites, lactophosphate of lime, cod-liver oil, etc. He was unable, however, to test his plan of treatment on account of the patient's moving out of his district, but he learned later that she gave birth to one child, at least, that was not deformed. These are the only cases I have been able to find reported in which a mother has given birth to two children having this deformity.

Cleft Palate.—Mrs. Y., on September 2, 1894, gave birth to a male child having cleft palate. It was weak and died four weeks later. August 2, 1896, she was confined again. This child was perfectly formed, and is living at the present time and is in good health. During her second pregnancy she received treatment which consisted in the administration of the syrup of the iodid of iron, the same as in the case preceding, and the results were entirely satisfactory. She was confined again on April 20, 1898, at seven months. This child had talipes varus of the left foot, and in place of the fourth and fifth toes there was a gelatinous mass extending back to the middle of the metatarsal bones. She had taken the iron irregularly. The family history of the mother was not good; an uncle had died of locomotor ataxia, her mother had goiter and died of apoplexy at fifty years of age. The mother of the child had a sister who had hysteria.

THERAPEUTIC NOTES.

Treatment of Bright's Disease.—NESTOR TIRARD ("Albuminuria and Bright's Disease") inculcates the following principles of treatment of this disease: In the acute form of nephritis rest in bed, restricted diet, the wet pack, diaphoretics and cathartics are to be employed during the first few days, until an increase of the amount of urine voided and the absence of hematuria denote that the renal engorgement has subsided. Until this occurs, nitrogenous food and active diuretics are contraindicated. A strict milk diet is administered when possible, but in case digestive disturbance is produced thereby, small amounts of broth of chicken, veal or mutton may be added or substituted. Persistent vomiting should be combated by small doses of hydrocyanic acid, preparations of bismuth, drop doses of tincture of iodin, or small doses of creosote or carbolic acid.

In coma or convulsions active cathartics, as croton oil, are to be administered, and if persistent headache is present, small doses of calomel combined with compound pill of colocynth are given. The wet pack is preferred to the hot-air or vapor bath, as being more convenient of application and of equal efficiency. Restlessness and insomnia are to be combated with the bromids, hyoscin and, sometimes aconite. If anasarca exists to such a degree that relief is not afforded by purgatives and the wet pack, the skin over the malleoli may be punctured to allow the serum to drain off. Digitalis and caffein are indicated as diuretics after the hematuria has disappeared. During convalescence exposure to cold, and any muscular or mental strain must be avoided. Strict attention must be paid to the diet as long as albuminuria persists, and the non-astringent preparations of iron and arsenic should be given as tonics.

In chronic nephritis, if any cause can be found—as malaria, syphilis or suppuration—this must be treated, using mercury with great care, should it be indicated. In cases exhibiting excessive dropsy and muscular weakness, rest in bed is indicated; but when the patient's strength is good and there is but slight anasarca, a moderate amount of outdoor exercise is beneficial. The question of withholding albuminoids from the diet must be decided by the effect produced on the individual patient, though no nitrogenous food should be allowed if hematuria exists. The only limit to the amount of albuminoids to be allowed is the ability of the patient to digest them. Although sometimes a strict milk diet will cause the albuminuria to disappear, it is not, as a rule, wise to confine the diet too strictly to milk. If the patient's habits have been such that a bad effect is produced by a complete deprivation of alcohol, a small amount may be allowed, but it must be always largely diluted and taken only at meal times. If these conditions are observed, the form in which it is taken is of slight importance; and if no loss of appetite or indigestion results from the withdrawal of alcohol, none should be given. Diminution in the amount of urine voided may often be corrected by copious draughts of water, or, if the patient can bear it, of milk. The cardiac tonics—strophanthus, digitalis and caffein—are indicated, and the alkaline diuretics if there is no hematuria. Dropsy is to be treated by purgatives, such as the compound powder of jalap and the salines, given in doses to be regulated by the effect produced on the patient; by the carbonates and citrate of lithium and the citrates and tartrates of sodium and potassium; and, when the heart and lungs are in good condition, by small doses of pilocarpin given in connection with the wet pack. The same agents are to be employed in the treatment of uremic symptoms. Dyspnea should be treated according to its cause, engorgement of the lungs or weakness of the heart or uremic poisoning. The use of morphin is not recommended. Life in a warm, equable climate is to be desired and light and non-exciting occupation should be followed if possible.

Treatment of Ozena with Citric Acid.—HAMM (*Munch. Med. Woch.*, April 11, 1899) recommends the application of citric acid in ozena, as the best means of taking away the terrible odor, which not only disgusts all with whom the patient comes in contact, but also often destroys the appetite of the afflicted individual. Hence, the mere removal of the odor is often followed by a marked improvement in the patient's general condition. The citric acid, however, has also a slight beneficial effect upon the nasal lesions. It can be used either pure, or better mixed in equal parts with sugar of milk. The nose is thoroughly cleansed in the morning, and the powder is then blown into it, and the insufflation is repeated at noon and at night. The deodorizing effects continue some days after the discontinuance of the powder, and as the citric acid has no harmful action, it may be used as often as is necessary.

Liquid Thiolum to Relieve Pain.—NIKULIN (*Deut. Medizinal-Zeitung*, April 17, 1899) has used pure liquid thiolum to relieve the pain of contusions, abscesses, acute and chronic gout and rheumatism, neuritis and myositis, finding it beneficial in promoting absorption as well as in stilling pain. In the acute cases the results followed more quickly than in the chronic ones. The thiolum was painted upon the affected portion of the body with a brush, several coats being applied, and was allowed to dry. It was then covered with a bandage to keep it clean, and two days later another application was made if necessary. At the end of the treatment the excess of the substance was washed away with warm water or alcohol. In no case was any irritation of the skin observed, even after repeated applications of thiolum.

Treatment of Acute Gastritis in Children.—The first step in the treatment of this disease is to see that the stomach is thoroughly emptied of all irritating matter (PEPPER, "Keating's Cyclopedia," vol. v). If the child has not vomited very freely the stomach should be thoroughly washed out, either by lavage, or if that cannot be employed for any reason, by administering warm water and ipecac. After the stomach has been well emptied no food must be allowed until the organ has become entirely quiet. Vomiting may be controlled by administering cracked ice or albumen-water. Calomel in minute doses should be given if an offensive diarrhea is present. Bismuth is often of use, but sometimes the cautious use of morphin is necessary. But the stomach will usually become quiet after the withdrawal of all food sooner than as a result of medication. Fever should be treated by sponging the body or by the tepid bath. Antipyretics should be used only in very exceptional cases. The return to the ordinary diet must be very gradual.

Treatment of Pertussis.—CHENEY ("Keating's Cyclopedia," vol. v). The patients, of course, should be isolated and allowed to have plenty of fresh air both by day and night and should be allowed plenty of good nourishment. The drugs to be employed are: First, antiseptic agents, the best of which are the vapors of carbolic acid, cresolin and thymol, and quinin, which can be included in this class. It is very valuable, if the child can retain it, given in doses according to the age of the patient—$\frac{3}{20}$ of a grain for each month and 1½ grains for each year of the child's age—three times a day. Secondly, antispasmodics, of which the most useful is bromoform, which should not be given in solution but on sugar in a spoon, in doses of 1 drop every four hours, increasing the dose by one drop each day until an effect is produced. Antipyrin in combination with bromid of sodium is also of much value in the treatment, given in doses of ½ a grain of the former to 2 grains of the latter, for a child of eight months; 1 to 2½ grains for a child of fifteen months, and 2 to 3 grains for a child of from two years and a half to four years of age. Belladonna may be given in small doses, repeated until the physiological effect is produced.

Fatal Poisoning by Benzine.—SPURR (*Lancet*, June 3, 1899) records the death of an epileptic woman, aged twenty-six, fifty hours after taking about an ounce of benzine. Only a few cases of poisoning with this very common substance have been reported. In most of them the symptoms have been of a narcotic character. In this instance the patient complained of a severe burning pain in the mouth and throat, and although she was given a strong emetic of mustard and water soon after the accident, there was collapse rapidly progressing to a fatal termination. Swallowing soon became well-nigh impossible. At the post-mortem examination the mucous and submucous coats of the esophagus, stomach, and duodenum, were found to be intensely inflamed, and in the duodenum there were erosions of the mucous membrane, but no perforation. The brain, lower portions of both lungs, the liver, spleen, and kidneys were all intensely congested. The absence of narcotic symptoms was thought to be due to the prompt administration of the emetic.

Xeroform, Externally and Internally.—BARSKY (*Rev. de Therap. Medico-Chir.*, May 15, 1899), after using xeroform in 417 cases (in 34 of them internally), formulated the following conclusions in regard to its action: (1) Xeroform although not a powerful antiseptic is a most serviceable one. It is decomposed by the alkalin fluids of the body into bismuth and tribromophenol. The former makes an insoluble compound with ptomains and renders them innocuous, and acts mechanically to prevent the entrance of microbes. The latter constituent has a germicidal action. (2) It is not changed by light, air, or heat. It can be sterilized repeatedly up to 120° C. without alteration. (3) It is not only without odor, but it dispels the bad odors which come from ulcers of the skin, or suppurating cavities connected with the genitals or alimentary canal. (4) It possesses drying properties to a high degree. It does not form a crust over a wound, nor stick to the surface, but is carried with the discharges into the dressing. (5) It has an analgesic and a hemostatic action, and favors the growth of healthy granulations, and so hastens the healing. (6) It is not at all toxic, and does not exert any irritation either upon the wound or the surrounding tissues. It was used in the form of a powder, as a salve, in gauze, and in bougies. Internally it was given in an emulsion, the dose being from 3 to 8 grains, three times a day. It was prescribed for acute and chronic gastric troubles, and for urticaria.

For an Early Morning Diarrhea.—LEMOINE (*Nord Med.*, p. 86, 1899) thinks that the morning diarrhea, occurring especially in nervous individuals with an excess of hydrochloric acid, can be favorably affected by a suitable diet. Roast or broiled meat should be taken at supper time, and no vegetables. He gives his patients 2 to 4 grams (℥ss to ℥j) of bicarbonate of soda before the evening meal, and at bedtime 10 grams (℥ijss) of gelatinized phosphate of chalk, either in milk or in syrup.

Diarrhea after meals occurs also in hyperchlorhydric persons. They should be put upon a correct diet, and should lie down after eating. Each meal should be followed by 2 or 3 drops of acetate of opium in a little water.

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SATURDAY, JULY 22, 1899.

STREET DIRT AND TETANUS, WITH SOME REMARKS ON TREATMENT.

DURING the latter part of last week and the beginning of the present one a number of tetanus patients have been under treatment at various New York City hospitals. A number of deaths from the disease have been reported in the city itself, and from its suburbs. We have had quite an epidemic of what the newspapers call lockjaw. It is not unusual at this time of the year and the history of practically all of the cases is the same. There is a wound from a firearm or piece of fireworks on the Fourth of July. The lesion heals usually with little difficulty, to reopen some eight days to two weeks later, though sometimes it does not, when the symptoms of tetanus show themselves and the case either runs a rapidly fatal course or convalescence is very protracted, and in most instances some "mark" of the disease remains forever after impressed upon the sensitive nerve-centers.

The development of tetanus after certain kinds of wounds inflicted in city streets is not uncommon. It occurs especially after contused wounds accompanied by slight laceration of the skin, or upon what may be called simply lacerated wounds. The bacillus of tetanus is absolutely and unalterably anaerobic, that is it grows only in the absence of oxygen. It is not like so many other anaerobic bacilli, facultatively aerobic, or capable of at least some growth in the presence of oxygen. It is only when the bacillus somehow becomes buried in the tissues away from all contact with the air that it finds a favorable nidus for growth in the human organism. Lacerated wounds or contusions with slight abrasions of the skin furnish just such an opportunity for growth away from the air. It seems that the dust of city streets, especially in the summer time, usually contains tetanus bacilli, so that the primary element necessary for the production of the disease is practically always at hand.

Notwithstanding that we possess an antitoxic serum that is effective in preventing the development of the disease in animals, its employment has done very little good in human beings. Cures have been reported from its use, but a certain number of tetanus patients always recover and there is more than a suspicion that it is mostly in the cases more or less chronic from the beginning, and in which recovery often takes place even under old methods of treatment, that the serum seems to be effective. Certain it is that a number of individuals afflicted with the acute variety of the disease die despite the very generous employment of the serum.

Even in the case of animals the fact of the matter is that the animal cannot be saved by ordinary subcutaneous injections of tetanus antitoxin if distinct symptoms of tetanus are already present. The injection to be effective must be given before the symptoms begin to show themselves. Recently it has been shown that intracerebral injections of tetanus antitoxin are effective in curing the disease in animals even when symptoms are at their height. A certain number of cases of tetanus in human beings have also been treated in this way, and with good results as far as the tetanic convulsions are concerned, though we do not always know the ultimate outcome of the case. Dr. Gibb reports a case in the *British Medical Journal* for July 1, 1899, in which, after the cure of his tetanus, the patient died of cerebral abscess eight weeks after the injections had been given.

This method of intracerebral injections undoubtedly has its objections. It is a serious operation, and its sequelæ are often apt to be serious even with the most careful precaution. Its employment seems to be justified in very acute cases, however, as the disease in such cases is practically always fatal. The ideal method of treating tetanus, however, is the one we quoted from Professor Landouzy of the University of Paris in reviewing his book on "Serum Therapy" ("Notable Books," MEDICAL NEWS, March 18, 1899). He suggests the use of prophylactic injections of tetanus serum in cases of suspicious wounds. Tetanus antitoxin has of late years been made of such high antitoxic potency that it requires but the injection of a few drops of the serum to absolutely preclude the possibility of the development of tetanus. This procedure is certainly worth trying in the case of all contused and lacerated wounds that have been exposed to contamination by street dirt, and especially when they have been inflicted by firearms. It could do no harm even if there were no tetanus germs present. The serum, though of such high antitoxic potency, is absolutely innocuous. It would certainly save a great many lives and save the individuals, too, from a most horrible death in the midst of the conscious agony of tetanic convulsions. No one has yet, we believe, reported the use of this method in America. It seems distinctly worthy of such a trial.

SERUM-THERAPY IN DIPHTHERIA.

THERE are still some ultra-conservatives who think, or pretend to think (the latter is not an unusual state of mind, and may easily be assumed in perfect good faith in cases in which a public statement has once been made on a subject) that diphtheria serum has accomplished nothing in reducing the mortality from the dread disease. To these the statistics of the New York Board of Health and of the European cities where the remedy has been properly tested, as presented by Dr. Biggs in this issue, cannot be expected to bring conviction. A few others, who are so obstinate in their misoneism that a new therapeutic principle is an obvious impossibility, may be added to this list. To all others the specific curative properties of diphtheria serum is now a matter of absolute science.

Yet the opposition to diphtheria antitoxin has not been without its good results. The jealous watchfulness over mortality statistics by the unconvinced has had its beneficial effect in making those statistics accurately representative of facts, and has had its influence in producing constant improvement in the quality of the serum supplied. The notoriety at once given to complications seemingly induced by serum, or to sequelæ of its administration, has led to a thorough investigation of these unlooked-for effects, and has brought about their more and more effective amelioration. It is well for scientific medicine, especially for therapeutics, that the conservative element in the profession is so strong. It saves many a premature acceptance of what seems at first a useful remedy. What good grounds there were for a reluctant conservatism in the acceptance of diphtheria serum as a remedy, may be judged from the fact that its first much-vaunted successes were really not due to the antitoxin at all, but to expectant treatment, for the serums first employed were of such low antitoxic value (fifty antitoxin units, and even lower) that whoever should pretend now to base statistics on the use of corresponding amounts would be laughed to scorn.

It is evident, however, that the day for true conservatism in the matter has gone by. Hesitation now degenerates into old fogyism—misoneism is, we believe, the newer and more elegant term for this halting entanglement in ideas that have been outlived. The seal of professional approval has been put on the new remedy not by any one school or clique in medicine, and the hearty approval has not been dictated by national or other extraneous motives. It has been the result of careful observation in hundreds of thousands of cases all over the world. Statistics can still, in certain places, be so manipulated and discussed, that there remains in some minds just a shade of doubt, but this is only true because prejudice exists. The sentiment of the profession on the subject all over the world is clear, beyond the shadow of a doubt.

We quoted some time ago in this column the Chicago diphtheria statistics, and we are glad to be able to give this week the New York statistics, each a striking contribution to the literature of the success of antitoxin therapy. The boards of health of the two cities have deserved well of the profession and of modern scientific medicine, for their work in the

collection and collation of the statistics, and for the thoroughly scientific manner in which the subject has been worked up and convincing conclusions evolved.

THE PLAGUE IN THE MIDDLE AGES AND NOW.

THE fearful epidemics of the plague which swept Europe at different times, from the Sixth to the Seventeenth Century, filled the public mind with a horror from which it has never freed itself, and which modern science has done little to remove. In the Middle Ages the people feared an unknown something lurking in the air or in the touch of the sick or in their food. They had good reason to fear it for it seized upon them in times of epidemic and after a few hours' illness they were dead. They filled their streets with smoke, they bore burning pitch and sulphur through the sick-rooms, they rubbed the walls of their dwellings with chalk, they washed their food in fresh water, they withdrew from all intercourse with their neighbors, and fled at the sight of a stranger, and if they had to go into the streets on some unavoidable errand, they wrapped themselves in flowing wide-sleeved robes which they could cast aside when they came to their own doors. Others rubbed themselves with oil, because it was believed that in Egypt oil-bearers seldom took the disease. Others followed the advice of Boccacio and warded off the "black death" by laughter and song and jest. But merry-making in the face of death demands a lot of courage, and if that was lacking, it had to be gained by stimulants, so that the sound of revelry often mingled on the night air with the rattle of the hurrying dead-cart.

We pride ourselves on our scientific knowledge and our freedom from superstition. Men with bravery as true as that of the soldier charging up a hill against the fire of the enemy have tracked this black monster by caravan route and by ship back to its home in India and China, where they watched its comings and goings until in Hong Kong in 1894 they finally caught it and named it. It was once an unknown evil; now it is called "bacillus pestis." Familiarity with its manner of living and multiplying has begotten a certain amount of carelessness perhaps on the part of investigators, a carelessness which cost Vienna dear last fall when the death of a laboratory attendant who had charge of some animals which had been inoculated with the plague bacillus was quickly followed by the death of the physician and nurse who attended him, and all Europe knew that the plague had broken out in its very center. Vienna was in a panic, and the unreasoning fear and the hasty erection of barracks for the reception of possible victims to the disease, the burning of everything suspected of having come into contact with "bacillus pestis," the closing of all hospitals to students, and the appointment of royal commissions to consider ways and means of preventing the spread of the disease, all show that the superstitious fear of the Dark Ages is not dead, but only sleeping, and that a breath from Asia would arouse it to all of its former cruel activity.

Are we really in danger of such epidemics as have prevailed in past times? This momentous question is as yet without a satisfactory answer. Europe has had two great visitations of the plague, one in the middle of the Sixth Century, beginning in Egypt about the year 542, spreading through Constantinople where ten thousand people are said to have perished in one day, through Liguria, Gaul, and Spain, and ultimately all over Europe, having lasted a half century, during which time it caused the death of some millions of inhabitants. The second great epidemic was supposed to have originated in China in 1334, and after spreading through India and Persia, it reached Europe in 1347, and twenty-five million people fell before it during the next four years. Since that time there have been many epidemics especially in the Eighteenth Century, numbering their hundreds of thousands of victims but these epidemics have all been minor ones in comparison with the two great ones spoken of above.

If Europe has been free from this "black death" for nearly a century such has not been the good fortune of Africa and Asia. Little is known about the conditions of health in the centers of these two continents, but there is reason to believe that there are at least four regions where the "bacillus pestis" has its permanent abode, and from which it sallies forth from time to time to taste new blood. One of these is in Central Africa, one in Arabia, one in Mesopotamia, and one in Central Asia, from which the Chinese epidemics arise.

Whatever may be the means we possess to-day for the prevention of the spread of the disease, and as

they have not been fully tested it is not certain what their real value is, our means for curing those who fall sick with the disease are not much better than the Middle Ages possessed. It is estimated that in the Hong Kong epidemic of 1894 ninety-five per cent. of those who contracted the disease died. In other places the mortality has ranged from eighty to ninety per cent. There are no reliable records of the percentage of mortality of the epidemics of the Fourteenth Century, but it could not have been much worse.

It is encouraging that the recent outbreak in Vienna was so completely controlled. As far as it goes this speaks well for our knowledge of disinfection. Unfortunately it does not go very far toward proving our superiority to "bacillus pestis." The conditions were not ripe for its coming. It had been carried artificially under favorable conditions of warmth and moisture and nourishment in glass tubes from India to Vienna. It was an exotic there at that time, and no doubt was as tender as exotics usually are. At the times of epidemic the conditions for its growth everywhere out of doors have been favorable, else it could not have naturalized itself so rapidly. Hence it is unsafe to argue that because this sporadic development of plague did not spread further that a natural epidemic could be as easily stopped. There are men who have been fighting the plague in India for the last two years, who say that such would not be the case. They argue if the extraordinary powers given to the sanitary experts in India—powers which allow them to burn whole villages and to keep the inhabitants absolutely isolated—did not prevent the spread of the disease that Europe with its solidly built houses would be even more helpless before a real epidemic.

People often express surprise that any one can work in a laboratory with deadly germs of all descriptions and not contract some disease. To the initiated the habits and possibilities of attack of the different bacilli are as well known as are those of serpents or tigers to keepers of a menagerie. Occasionally by an accident some one falls under a lion's paw or an elephant's trunk, and in a similar manner some laboratory worker contracts diphtheria, or typhoid, or cholera. These happenings, however, are pure accidents, and neither the menageries nor the laboratories will ever close for the lack of men who are willing to disregard a danger which owes its power to their own carelessness.

ECHOES AND NEWS.

The Plague at Alexandria. — Three cases of bubonic plague were reported at Alexandria, Egypt, July 9th. The inhabitants are said to be discontented with the sanitary precautions and threaten trouble if the disease continues to spread.

Tetanus in 1898.—There were seventy-three deaths from tetanus in Greater New York last year. Of the number twenty-three occurred in the Borough of Manhattan, thirty-four in the Borough of Brooklyn, and one in the Borough of the Bronx.

Bubonic Plague on Shipboard.—It is reported by wire that the "City of Pekin" is quarantined at Nagasaki, and the American "Maru" at Yokohoma (both of the San Francisco-Oriental Line) with cases of bubonic plague aboard. Two deaths from this disease have occurred on the "Maru."

The Progress of Yellow Fever.—At Havana, Cuba, 2 cases of yellow fever were reported July 6th. At Santiago from June 15th to July 10th there were 148 cases and 28 deaths. Vera Cruz, Mexico, from June 29th to July 6th, 25 deaths. On the bark "Dolores Romano" at Vera Cruz July 1st 7 cases were discovered.

The American Electrotherapeutic Association. — This association will hold its ninth annual meeting at Washington, D.C., September 19, 20, and 21, 1899. Willard's Hotel has been chosen for the headquarters and special rates have been made for all interested in this meeting. Many able papers have been promised and a very successful scientific meeting is assured.

Scarlet Fever at West Point.—A slight epidemic of scarlet fever broke out among the cadets at West Point, July 11th. The prompt application of quarantine measures quickly brought it under control. During its sway the naval cadets from Annapolis on board the schoolship "Newport" arrived to pay a visit to the post. The quarantine rules prevented their landing, and they sailed away, without having grasped the hands of their brothers in the army. At last report no new cases had appeared, and the dress parades had been resumed.

The Buffalo Laboratory and the English Parliament.—In the English House of Commons, July 11th, in replying to a question of Sir Charles Cameron, the Parliamentary Secretary of the Foreign Office, said the attention of the Foreign Office had not been previously called to the fact that, owing to the deaths from cancer, the New York Legislature had endowed a laboratory at Buffalo to study the disease, but, the Under Secretary added, the British Chargé d'Affairs at Washington, would forthwith be asked to furnish the Government with all possible information regarding the institution. This recent interest

in the Buffalo laboratory has been aroused by the statement that investigations now being conducted there point strongly toward the confirmation of the germ theory of cancer. The somewhat startling statistics published last winter by Dr. Roswell Park setting forth the prevalence of cancer in New York State have been seriously questioned. Dr. Park informs us in a personal letter that in view of this fact, he is having his statistics carefully scrutinized in their minutest detail by experts preparatory to a subsequent statement.

Yellow Fever and Quarantine at Santiago. — General Wood in command of the Department of Santiago de Cuba is adopting heroic measures to stamp out yellow fever. An absolute quarantine against all officers and employees of the government, except those belonging to the department, has been established about the city. The mayor is directed to close all American hotels and saloons, to forbid liquor dealers to sell intoxicants to Americans, and to arrest all intoxicated Americans or loiterers in saloons. The principal hotels and saloons are designated by name. The pack-trains have been ordered to establish camps outside the city, and all the troops have been moved to Songo, except one company at Morro Castle. The headquarters of all the departments have been moved to Crispo, and the railroad and steamship lines are forbidden to bring Americans into the city. No ships are permitted to touch at the wharves. The strictest regulations have been established for the protection from fever of the soldiers at Morro Castle. Supplies are to be left at a road depot, and will be taken to the soldiers by teams from the camp. No travelers will be permitted to leave without having undergone five-days' detention in camp. On July 12th Captain Thomas M. Woodruff, adjutant of the Fifth Infantry, died near Santiago of yellow fever. Captain Woodruff was a native of the State of New York, but was appointed a cadet at West Point from the District of Columbia.

Letter from Major Harvard at Santiago.—Surgeon-General Sternberg has received a letter from Major Harvard, Chief-Surgeon at Santiago, which gives an interesting review of the yellow-fever situation there. The letter is dated July 5th, and says: "Fever broke upon us suddenly almost without warning, the first case in a dirty lodging-house in town, but the second and third cases almost simultaneously in the barracks. We have no doubt that the city is infected in various places, but especially in the barracks lately occupied by four companies and band of the Fifth Infantry, from which have come the great majority of our cases. The barracks and hospitals have been evacuated, as well as all other public buildings, and all our troops are in camps. The first two companies are now free from yellow fever, but the last two have continued to furnish many cases. On the 2d and 3d inst. these infected companies were disinfected, and sent into the foothills, five miles away, where we expect good results. Up to this evening we have about 104 cases, including 15 civilians, with total deaths of 23. Our general hospital is now under canvas, but I hope to be able to have a frame structure put up. All our cases with the exception of a Cuban, and a Spaniard, are Americans, and as all our troops are out of the city we necessarily expect a prompt decrease of the epidemic for want of material to feed upon. I have nothing but high praise for all the medical officers on duty in this city."

Assignments of Volunteer Medical Officers to Regiments at Various Posts. — Volunteer officers of the Medical Department have been assigned to regiments as follows: To the Twenty-sixth Infantry, United States Volunteers, headquarters Plattsburg Barracks, N. Y., Major Charles F. Mason, surgeon; Captain Frederick A. Washburn, Jr., assistant-surgeon; First Lieutenant John E. Boyd, assistant-surgeon. To the Twenty-seventh Infantry, United States Volunteers, headquarters Camp Meade, Penn., Major Ogden Rafferty, surgeon; Captain James H. Hepburn, assistant-surgeon; First Lieutenant Leonard K. Graves, assistant-surgeon. To the Twenty-eighth Infantry, United States Volunteers, headquarters Camp Meade, Penn., Thomas C. Chambers, surgeon; Captain S. Chase de Krafft, assistant-surgeon; First Lieutenant Allen J. Black, assistant-surgeon. To the Twenty-ninth Infantry, United States Volunteers, Fort McPherson, Ga., Major Charles L. G. Anderson, surgeon; Captain James C. Minor, assistant-surgeon; First Lieutenant Lomax S. Anderson, assistant-surgeon. To the Thirtieth Infantry, United States Volunteers, headquarters Fort Sheridan, Ill., Major John R. McDill, surgeon; Captain James J. Erwin, assistant-surgeon; First Lieutenant Albert H. Eber, assistant-surgeon. To the Thirty-first Infantry, United States Volunteers, headquarters Fort Thomas, Ky., Major Joseph N. Henry, surgeon; Captain Abram L. Haines, assistant-surgeon; First Lieutenant Ralph L. Porter, assistant-surgeon. To the Thirty-second Infantry, United States Volunteers, headquarters Fort Leavenworth, Kansas, Major Frank C. Armstrong, surgeon; Captain John W. Hereford, assistant-surgeon; First Lieutenant William H. Cook, assistant-surgeon. To the Thirty-third Infantry, United States Volunteers, headquarters Fort Sam Houston, Texas, Major B. Albert Lieberman, surgeon; Captain W. E. Parker, assistant-surgeon. To the Thirty-fourth Infantry, United States Volunteers, headquarters Fort Logan, Col., Major James E. Shellenberger, surgeon; Captain Frank W. Foxworthy, assistant-surgeon; First Lieutenant Patrick J. McKenna, assistant-surgeon. To the Thirty-fifth Infantry, United States Volunteers, Vancouver Barracks, Washington, Major Julius A. Schuelke, surgeon; Captain Luther B. Grandy, assistant-surgeon, First Lieutenant John A. Metzger, assistant-surgeon.

MEDICAL MATTERS IN NEW YORK.

REPORT OF CONTAGIOUS DISEASES FOR THE WEEK ENDING JULY 8TH — A CHRISTIAN SCIENTIST IN BELLEVUE HOSPITAL — A DEATH FROM RABIES — THE STRAUS MILK DEPOTS — IMMIGRANTS REJECTED ON ACCOUNT OF DISEASE — DEATH OF DR. F. W. FABRICIUS AT SANTIAGO — RECOVERY FROM TETANUS — "CHRISTIAN SCIENCE" OR "EDDYISM."

THE Board of Health makes the following report of

contagious diseases in New York City for the week ending July 8, 1899: Measles, 216 cases, and 13 deaths; diphtheria, 191 cases, and 42 deaths; laryngeal diphtheria (croup), 10 cases, and 6 deaths; scarlet fever, 125 cases, and 7 deaths; smallpox, 3 cases, and 1 death; chicken pox, 12 cases; tuberculosis, 98 cases, and 140 deaths; typhoid fever, 16 cases, and 10 deaths; cerebrospinal meningitis, 4 deaths.

In some inexplicable way a man who claimed to be a Christian Scientist, an "Eddyite" or "Divine Healer" and able to cure every disease afflicting the patients, got into Bellevue Hospital one day last week. He told the patients that the attendant physicians at the hospital were their worst enemies, and were merely experimenting on them for the benefit of the higher classes. The man had elaborately printed cards, on the back of which were crosses in red, and "P. J. Durvin, 285 Bowery," also the announcement that he and the Savior were able to cure every manner of disease. Durvin succeeded in passing through several of the wards before he was interrupted. It is said that he then left the hospital by the "most direct route." The patients were all more or less excited over the visit.

Charles N. O'Neil, four years of age, living at Montclair, N. J., was bitten in the face by a dog June 1st. The following day he was taken to the Pasteur Institute in this city, where he was treated by inoculation. The crisis had been passed and recovery seemed certain, when the boy developed marked symptoms of rabies and died July 16th.

The Nathan Straus milk depots have been opened at various points in the tenement-house districts and on the recreation-piers. Pasteurized milk and fresh milk cleansed by the centrifugal process is sold by the glass for one cent, and pure and modified Pasteurized milk are furnished in bottles for infants at nominal rates, or free to those too poor to pay.

The medical examiners at the port of New York, during the month of June, 1899, examined 30,754 immigrants. Of these 126 were rejected as suffering from loathsome or contagious diseases.

Acting Assistant-surgeon Frederick W. Fabricius of the United States Army, formerly a practising physician in this city, twenty-six years old, died the death of a hero at Santiago de Cuba on Sunday, June 25, 1899. When yellow fever first made its appearance among the American troops, Dr. Fabricius, although not an immune, plunged into the work of life saving with such energy that he soon exhausted his physical powers, and within a week fell a victim to the dreaded disease. He died five days after he had been attacked by the fever. Dr. Fabricius was graduated from the Bellevue Hospital Medical College, class of 1893, and was an interne at Bellevue from 1894 until 1896. He was afterward connected with the Metropolitan Hospital for the Insane. When war began between the United States and Spain the young physician offered his services to the government, and was appointed acting assistant-surgeon in the army. He was first stationed at Fortress Monroe, Va., and last December was transferred to Santiago de Cuba, where he held the position of pathologist and bacteriologist at the United States General Hospital up to the time of his illness. Dr. Fabricius was unmarried. He had a brother and an uncle living in this city.

Joseph Reinberg, twelve years of age, one of the victims of the Fourth of July fireworks, who had received serum treatment, both intracerebral and subcutaneous, was reported July 17th as convalescent. Some of the firecracker wadding which was taken from the wound in his hand has been sent to the laboratory of the College of Physicians and Surgeons for examination as to the presence of tetanus germs. There seems to be reasonable grounds for the belief that the pulp from which firecrackers are manufactured is made from the dirty scraps of paper collected from the streets, and therefore supplies the source of tetanus infection.

A much-advertised meeting of the Medical and Legal Relief Society was held at the Waldorf-Astoria on the evening of July 13th to take steps toward devising a bill for presentation in the New York Legislature to restrain the practice of Eddyism or Christian Science. The movement was evidently ill-advised and improperly organized. The members of the society and the representatives of the medical profession were conspicuous by their absence. The meeting was captured by a strong representation of Eddyites, and the effort resulted in a fiasco. As Mr. W. A. Purrington pointed out in a recent letter to the New York *Sun*, it seems obvious that attempts at legislation in the matter should not be made ill-advisedly or without due organization. In confirmation of this Mr. Purrington narrates the history of an effort made in 1898 by Senator Coggeshall to secure the passage of a bill that would have restricted the practice of Eddyism. At its hearing in committee so many Eddyites, most of them in skirts, were present that adjournment was had to the Senate Chamber. Apparently no one spoke for the bill and no one of note against it. After the usual platitudes concerning liberty and the customary depreciation of medicine as an unfinished science, the Senator is reported to have smiled, bowed to the ladies, and abandoned the bantling upon Mrs. Eddy's doorstep as cheerfully as he took it from its parent, whoever that may have been. It was another instance of an enthusiastic and organized few carrying their point, while the unorganized multitude was indifferent and apathetic.

Mr. Purrington's letter is so clear upon the relation of existing law to Christian Scientists that it seems quite worth while to quote freely from it. He says: "No medical law of any State enjoins or prohibits any system of medical practice. No law forbidding the practice of Christian Science or any other system of treating the sick, no matter how foolish, has been proposed. Those who assert the contrary do so ignorantly or with intent to mislead. What medical laws require, and in the opinion of the Supreme Court of the nation and of almost every State properly require, is that no person shall practice medicine before he has pursued a proper course of study and furnished some evidence that he has a fair knowledge of the human economy and the sciences relating thereto. This regulation applies to Roman Catholics, Protestants, and Jews. It is objected to by Christian Scientists and

Spiritualists, who stoutly maintain that to require the same education of them as of others engaging in the same business is to infringe their liberty of conscience and right to worship in their own way, although it is undeniable that when a man has once obtained a license to practice medicine upon proof of his scientific attainments he may follow any system he chooses. He may, if he sees fit, rely solely upon mental processes. Every physician does largely take into account and rely upon the effect of the mind upon the body, especially in certain classes of cases. There are few to-day who pretend that the high potencies of homeopathy have any medicinal action, and it was a realization that their effect was due to the patient's imagination that led Mrs. Eddy, as she says, into her own extraordinary system. But homeopathists admit the existence of disease. They often administer drugs as heroically as regular practitioners—sometimes more heroically. They use surgery skilfully. In fact, it is often difficult to differentiate them from regular physicians by their practice alone; nor was there ever a time when they did not claim to be called physicians. The Eddyites, on the other hand, although eager to dub themselves 'doctors of Christian Science,' declare that they are not practitioners of medicine. Mrs. Eddy, as was fully pointed out in the *North American Review* for March, condemns not only drugs, remedies, and instruments, but even hygiene, exercise, and bathing. Her method of curing disease is first to deny its existence and then to argue with it as one would argue with a Congressman. Herein lies at once the danger of her crazy method and the immunity of its practitioners from punishment under the law of this and many other States. A druggist who prescribes a proprietary nostrum or so simple a remedy as rhubarb or chalk mixture may be convicted of a misdemeanor. Our Supreme Court has so held in several cases. But it also has laid down in Smith *vs.* Lane (24 Hun., 632) the narrow rule that the use of drugs, medicines, or instruments is an essential element of medical practice, holding, in substance, that the medical law was intended only to protect those seeking treatment *secundum artem* from false pretenders to skill in the use of dangerous drugs or instruments, but not to protect from their mistake or folly, persons who, lured by wonderful promises of cure, submit themselves to the treatment of those avowedly discarding ordinary medical methods. This case, expressly approved of in Ohio, Rhode Island, and perhaps other States, is the joy and bulwark of Christian Scientists. It was held to be inapplicable under the Nebraska and Illinois statutes; but from the last Legislature of the latter State the Eddyites are said to have secured a proviso, in the new medical law adopting its rule.

"It will be remembered that a letter in the *Sun* of June 9th, the accuracy of which has not been denied to my knowledge, showed that when Mr. Carol Norton, Mrs. Eddy's apostle hereabouts, was asked if he would dare to exclude medical aid and treat severed arteries, fractures, strangulations, and contagious diseases by mental processes he twice wrote that he preferred to shelve the questions. It must seem startling to a layman that a druggist violates the medical law by prescribing rhubarb, while a Christian Scientist who 'thinks at' the severed artery of a child is exempt from the operations of that statute.

"But does it follow that we are without remedy under existing law? It would seem not. If it can be demonstrated that a Christian Scientist has caused death by excluding proper medical or surgical treatment and substituting his mental processes—in such cases, for instance, as those submitted to Mr. Norton and 'shelved' by him—it ought not to be difficult to obtain a conviction of manslaughter, if not of murder. The societies for prevention of cruelty to children can act in the premises. English courts are extraordinarily lenient with fanatics, but although Wagstaffe escaped punishment prior to the enactment of the Prevention of Cruelty to Children statute, that law seems to have been passed in consequence of his acquittal; and recently another member of the 'Peculiar People,' whose child died under a similar treatment by anointing with oil in Apostolic fashion, was convicted of manslaughter. If memory serves, Mr. Gerry, some years ago, took from a missionary a child whose fractured arm the father was treating solely by such anointing; and the bishop forbade the parent to go back to his post. There is no reason why Christian Scientists should not be compelled to report births, deaths, and contagious diseases under the usual penalties for disobedience. If they say that it is wrong to compel them, who do not believe in disease, to report its existence, once more the answer is simple: Mrs. Eddy herself has reported in print that her first husband, Colonel Glover, died of 'yellow fever,' that insidious disease. But after all, that which will destroy Christian Science is the true exposition in the reviews and daily press of its absurdities, its vulgarities, its false pretences, as well as its dangers. It does not seem possible that a sane or reverent mind or one with any sense of humor could accept seriously the preachment of the exceedingly shrewd, but very ignorant and ungrammatical old lady, once of Lynn but now of Concord. And it is safe to say that unless Christian Scientists can win some temporary advantage by cheap martyrdom the time will come very soon when sane and reputable persons, many of whom now accept the doctrine ignorantly, will blush with shame to think they ever could have been disciples of Mary Moss Baker Glover Patterson Eddy, whose name seems to be legion."

MEDICAL MATTERS IN PHILADELPHIA.

A LAW TO PREVENT POLLUTION OF THE SCHUYLKILL RIVER—LICENSES FROM OTHER STATES DO NOT QUALIFY THE HOLDER TO PRACTISE MEDICINE IN PENNSYLVANIA — MORE "FAITH CURE" NOTES—TETANUS RESULTING FROM FIREWORKS' INJURIES —THE BOARD OF WATER EXPERTS—DIPHTHERIA IN SOLDIERS' UNIFORMS — DR. CATTELL ELECTED PATHOLOGIST TO THE PHILADELPHIA HOSPITAL—APPOINTMENTS OF MEDICAL MEN BY GOVERNOR STONE—PERSONAL.

AT the thirty-third annual meeting of the Pennsylvania State Board of Health, held this week, a regulation was adopted for the prevention of pollution of the Schuylkill

River. The new regulation, which is based upon power recently vested in the State health authorities by an act of legislature, absolutely prohibits the pollution of this stream by deposits of excrement of all kinds, from any source whatsoever. Recent official investigations having shown the presence of widespread contamination of the Schuylkill by the sewage of dwellings, institutions, and manufactories situated along its banks, the importance of the new order can scarcely be exaggerated. The board, now that it possesses the power to do so, will at once begin the work of abating the nuisances, by rigorous enforcement of the new law; and, it is to be hoped, without fear or favor of either individuals or of corporations.

Congratulations should be extended to the Pennsylvania State Medical Council for its recent successful efforts in the courts to uphold the standard of legal requirements for the practice of medicine in this State. In a suit which was decided this week by Judge Simonton, a mandamus was refused compelling the Medical Council to issue to a Dr. George A. Ludwig, a license to practise medicine, without the necessary qualification of examination. The physician in question is a graduate of a Baltimore medical school and a licentiate of the Maryland Medical Examining Board, and he applied for a license in this State on such credentials. The license was properly refused, so he carried the question to the courts, evidently to test the legality of the Medical Practice act of this Commonwealth. Judge Simonton, in refusing to grant the mandamus, based his decision upon the fact that the medical law of Maryland, under which the petitioner was qualified, fails to meet the demands of the medical law of Pennsylvania. This decision should form a valuable precedent, to deter, in future, licensed physicians from other States where the qualifications may happen to be trivial, from attempting to evade the Pennsylvania law, by presenting such credentials in lieu of standing the regular examination required in this State.

It becomes painfully monotonous to have to record, week after week, the far-reaching evils of the "faith-cure" and allied insanities in this vicinity, but once again your correspondent feels called upon to note still another death from the practise of the delusion. This time it is the case of a young child, now dead of scarlet fever, whose father not only refused to call in medical attendance for the little one, but even failed to report the illness to the health authorities of the town. The father, Jacob W. Gracely, by name, is reputed to trust rather to the Lord than to physicians for the treatment of disease, and he is himself following out this line of belief in his own case, for he is also ill. The authorities of Allenton, where this individual lives, have placed him under arrest, not for believing in the Lord, but for violating the law requiring the notification of contagious diseases, but sentence has been suspended pending the prisoner's indisposition.

More "faith-cure" news comes from a small borough in Chester County, to the effect that a petition, signed by most of the residents of the place, has been presented to the local school-director, requesting the reconsideration of the appointment of a school-teacher who is alleged to hold firmly implanted Christian Science views. It is stated that the teacher complained of has openly advocated the teachings of this sect, made "converts" to the faith, and aired her views of the question in the schoolroom. The school directors are divided about the removal, and the deadlock may have to be broken by the courts.

Contrasted with New York City, where such an epidemic of tetanus has followed the Fourth of July, Philadelphia may consider herself exceedingly fortunate. This city has not escaped, however, as the five fatal cases of tetanus from injuries by fireworks testify. In addition to these, there are several other cases, convalescents, or of mild infection. Judging from the large number of accidents suffered by Fourth of July celebrators in Philadelphia, the number of tetanus cases has been few.

The three water-experts appointed by the mayor, Messrs. Rudolph Hering, Samuel H. Gray and Joseph M. Wilson, have just visited Albany, N. Y., where they inspected the model 15,000,000-gallon water-filter, considered one of the best-constructed plants in the world. As yet, the experts have not advanced any definite plan of water-purification for this city, and their decision in the matter will not be arrived at until after extensive inspections of water works in various parts of the country and until after careful consideration of every phase of the question. The public prints are full of all sorts of rumors attributed to the board of experts, but their endorsement of any method of water-supply suitable for this city will remain problematic until the publication of their official report to the mayor.

Owing to the vigilance of the factory inspectors and the health authorities, a quantity of soldiers' uniforms ready for delivery to the Schuylkill Arsenal this week, were found to have been exposed to infection by diphtheria; the articles of clothing were immediately confiscated and sent to the disinfecting-station for sterilization. This is the second instance of diphtheria-infected clothing which has been reported in this city within a fortnight, and the detection of the danger testifies to the watchfulness of the factory inspectors, who made the discovery in both instances.

At the last meeting of the Board of Charities and Correction, held this week, Dr. Henry W. Cattell was elected pathologist to the Philadelphia Hospital to succeed Dr. John Guiteras, who recently resigned.

Governor Stone has announced the following appointments of medical men during the past week: Dr. J. L. Forwood of Chester, to be a member of the Quarantine Board for the port of Philadelphia, vice Dr. Ernest La Place, whose term expired July 1st, and Drs. John H. Gibbon of Philadelphia and Herbert A. Arnold of Montgomery County, to be assistant surgeons of the National Guard of Pennsylvania, with the rank of first lieutenant, with assignments to the Sixth Regiment, Infantry. Governor Stone has also commissioned as medical officers of the National Guard Major Francis R. Packard, surgeon, and Captain R. W. Montelius, assistant-surgeon, both with rank from June 14, 1899; and Lieutenant Walter Boardman, assistant-surgeon, with rank from July 11, 1899.

Among the medical profession of this city nearly "every one who is any one" seems to have joined in the midsummer rush Europeward. Among the latest departures and those who expect to sail during the next few days may be mentioned Drs. James C. Wilson, J. Montgomery Baldy, G. Hudson Makuen, Solomon Solis-Cohen, Howard F. Hansell, and M. S. French. Dr. Henry C. Chapman, who has been abroad since early last spring, is expected to return the latter part of August.

The number of deaths in Philadelphia during the week ending July 15th reached a total of 482—an increase of 47 over those of last week, and a decrease of 11 from those of the corresponding period last year. Returns of contagious diseases are as follows: Enteric fever, 40 new cases, with 9 deaths; diphtheria, 64 cases, with 17 deaths; scarlet fever, 35 cases, with 2 deaths; and cerebrospinal meningitis, a single case, and 2 deaths.

SCIENTIFIC MEDICAL JOTTINGS FROM AMERICAN TROPICAL COUNTRIES.

CARRION'S DISEASE.

A DISTINCT contribution to South-American medicine is the recent publication of a volume on "La Maladie du Carrion" by a friend of the martyr scientist, whose heroic inoculation of himself, unfortunately with fatal result, has added so much to our knowledge of the disease.

The disease has been known as long as history goes back in Peru. When the Spaniards under Pizarro landed in the country they were stricken with it. It has been known by many names, nearly all of them having reference to its occurrence in Peru, or at least in the Andes Mountains. It has been called verruga des Andes and verruga Andicola, the wart of the dweller in the Andes; verruga de Castille, because of its occurrence among Spaniards when first brought to European notice. The new name proposed for it, La Maladie du Carrion, seems to be a worthy tribute to the fearless young investigator who made the true character of the disease known, though his inoculation of himself cost him his life.

During the building of the railroad from Lima to Oroya a number of the workmen were prostrated by a fever that often proved fatal. It was practically always complicated by a cutaneous eruption resembling that of verruga Peruana, and it was a matter of great doubt as to whether two diseases coexisted. It was thought that the fever might be a serious form of malaria during which, owing to lack of resistive vitality, the verruga Peruana succeeded in getting a foothold. Carrion, a medical student, inoculated himself with material taken from one of the cutaneous lesions and is considered to have demonstrated that the fever and the eruption were symptoms of one and the same disease. He developed a cutaneous eruption and a very high fever which proved fatal on the thirty-ninth day. He had the satisfaction of knowing before his death that he had solved the problem of the identity of the two diseases.

As the disease may last for months in certain chronic forms it would seem that physicians on our seaboard should know something of it as they are liable to meet with examples. The eruption occurs in two forms, a miliary and a tubercular or, as they say in Spanish, mular form. The miliary form is not unlike prurigo at times or sudamina, though the little indurated nodules which are very superficial may become umbilicated and so resemble variola. It may be localized when it occurs on parts especially subject to irritation, as the face, hands, and feet, and the knees and elbows. Often it is universal. The tubercular form occurs as nodules at first to be felt rather than to be seen in or under the skin and later reaching good size, sometimes as large as a small orange. These large nodules sometimes retrogress but oftener form adhesions to the skin and break down. Fever always occurs, sometimes just after the eruption. The height of the fever seems to depend on the amount of the eruption. Plentiful external eruption relieves the system of toxins by elimination as it were. The nodules have been found on the serous membranes and in all the internal organs, even in the bladder and testicle, and in Peyer's patches. The fever is often of quotidian type, with afternoon elevations; sometimes, however, it is of tertian type, and it may at times be very irregular, but it never fails to make its appearance some time in the course of the disease.

SANARELLI'S BACILLUS NOT THE CAUSE OF YELLOW FEVER.

Dr. A. Matienzo in the *Gaceta Medica*, the periodical of the National Academy of Medicine of Mexico, Vol. XXXVI., No. 10, in a note on the bacteriology of yellow fever gives the details of six cases of the disease in which he sought carefully, and with the technic advised by its discoverer for Sanarelli's bacillus but failed to find it in any one of the cases.

In conclusion, he says: The bacillus claimed by Sanarelli as the cause of yellow fever, and whose presence cannot be demonstrated after repeated investigations such as I detail here is evidently not the true cause of the disease. Sanarelli himself admits that it cannot be found in nearly one-half the cases, and this flagrant violation of Koch's law of pathogeneity should be enough to condemn the idea of its specific etiology for yellow fever. Novy, working under Roux at Paris, has shown recently that Sanarelli's bacillus by its acid reaction with tournesol and its production of gas in glucose solution resembles the colon bacillus, though it has certain similarities with the bacillus of Eberth that seems to show that it belongs rather to the family of the typhoidal bacillus.

The most important fact that speaks against its specific pathogeneity for yellow fever is that its vitality is not inhibited in the least by exposure to a temperature of fifteen degrees below zero, and that this exposure does not even temporarily paralyze its germinative powers.

Dr. Matienzo agrees finally with Novy that the germ of yellow fever, very probably like that of hydrophobia and other well-known diseases, is so small that it is beyond the power of the best lenses we have at present; that it is "in the realm of the infinitely little."

MICROBES AND THE SCENTS AND COLORS OF FLOWERS.

According to *La Nature*, Dr. Domingos Freire, the well-known yellow-fever expert of Rio Janeiro, and whose inoculations with yellow-fever serum have attracted so much attention, claims to have found that most of the flowers harbor micro-organisms of various kinds. Some of these microbes are startlingly similar to some of the pathogenic varieties of bacteria. Dr. Freire expresses the opinion that the presence of these bacteria is not merely a passing incident in the life of the flowers but that they are intimately associated biologically with them as hosts. He thinks that a sort of symbiosis exists and that the color and scent of the flowers are really due to bacterial parasites that flourish on them. He has found without doubt that in certain cases at least, a microbe can be cultivated from the surface of a flower, which in culture media reproduces the color of the flower or one very similar to it. He has found, for instance, a pinkish leptothrix that grows on the Rosa Rothschild which is always of a pink color. In the same way he has demonstrsted that the odors of flowers may be reproduced in cultures of microbes obtained from them.

Dr. Freire considers that some at least of the bacteria that he finds so commonly on flowers may be pathogenic for man. Certain forms he has not been able to differentiate from well-known pyogenic microbes. The bacillus pyocyaneus seems to occur in connection with certain tints. Very often he has found on flowers certain micrococcic forms resembling the ordinary pus-cocci, which he considers have been deposited there from the air and either have been able to reproduce themselves or at least have retained their vitality. As they are by no means infrequent and as the flowers possess ample opportunities for the collection of floating micro-organisms from the air and as especially such as are grown during the winter months in warm living rooms, are continually in the midst of conditions of heat and moisture that would favor the multiplication of microbes. Dr. Freire advises against close contact with such flowers especially by delicate persons. It is this property of microbe cultivation it would seem, rather than any supposed noxious organic product that is thrown off from them that constitutes the real danger of having flowers in living rooms.

BACTERIA AND TOBACCO.

An almost as surprising development of bacteriology is that touched on by Nuttal in the June number of the *Contemporary Review*, but in this case it is as helpful agents that they are found at work. Certain observations in Cuba and Florida seem to make it clear that during the time that tobacco is maturing after being cut down there is a development in it of bacteria. It is this that raises the temperature of the tobacco and if it is allowed to proceed too far will spoil the leaf. The growth of these bacteria produces the characteristic qualities of the special form of tobacco, and in the tobacco of different countries it is not so much the varieties in the tobacco plants themselves or the conditions of moisture, soil, and climate under which they have grown as the varieties of colonies of bacteria that develop on it which makes the ultimate differences in the mature product.

COMPARATIVE MILDNESS OF PURULENT OPHTHALMIA NEONATORUM IN WARM CLIMATES.

Dr. J. S. Fernandes in the June number of the *Gaceta Medica* of the National Academy of Medicine of Mexico reasserts, as the result of observations and comparisons made during the last ten years, that the disease type of purulent ophthalmia (gonococcal) of the new-born is much milder in warm climates than it is in Europe. This was asserted some time ago at the Paris Society of Ophthalmologists, but was received with some incredulity. Dr. Augustin Chacon found it to be the fact in Mexico and now Dr. Fernandes confirms it for Havana. In many cases the gonococcus was found, yet, in some of these patients under the ordinary treatment for catarrhal conjunctivitis, they were on a fair way to recovery. The complications and serious sequelæ were much rarer than in Europe. We do not know that it has ever been noted in temperate climates that purulent ophthalmia neonatorum is less virulent in the summer time, yet this ought to be the case if it is the temperature alone of warm climates that causes the difference in the types of the disease. Dr. Fernandes suspects that there are other factors at work though he is not able to designate them very definitely.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

CACODYLIC MEDICATION—PENETRATING WOUNDS OF THE CHEST—ANOTHER CANCER PARASITE—MOVEMENT OF THE RIBS IN PLEURISY—CASTRATION FOR TUBERCULOSIS OF THE TESTICLE—SUTURE OF TWO FRACTURED CLAVICLES—TUBERCULOSIS OF THE SPLEEN—SYPHILITIC GLOSSITIS IN A WOMAN.

AT the Academy of Medicine, June 6th, GAUTIER said that he had used cacodylate of soda in profound anemia, in malarial cachexia, and in many cases of confirmed tuberculosis. Although cacodylic acid contains 54·3 per cent. of metallic arsenic, it is certain that the cacodylate of soda is not an ordinary arsenical compound. It causes the fever of phthisis to fall slowly but steadily, at the same time that it promotes assimilation and increases the patient's weight. The stomach will support indefinitely a daily dose of from 1½ to 3 grains and almost the same amounts may be administered subcutaneously to an individual who cannot take without disturbance $\frac{3}{100}$ of a grain in Fowler's solution. This difference in poisonous action between organic and mineral arsenic is explained by the experiments of Besredka who found that mineral arsenic injected into the peritoneum or under the skin is absorbed by the leucocytes and passed on in an organic form to the other cells of the body, especially those of the nervous system. If mineral arsenic is injected so that it comes into immediate contact with the nervous centers, before it can be changed by the leucocytes, it is found that the fatal dose is only the one-hundredth part of the amount which is fatal if the drug is first changed by the leucocytes.

The cacodylates are irritating in large doses, stimulat-

ing in therapeutic doses. They excite reproduction of the lymphoid corpuscles, especially the polynuclear ones, which protect us from infectious bacteria and their products, and cause the rapid multiplication of the red corpuscles. Cacodylic medication, therefore, appears to be an excellent remedy to regulate oxidization and consequently to renew the blood and tissues. In phthisis the cacodylate of soda should be given hypodermically in doses of from 1/3 to 3/4 of a grain daily. This medication should be continued daily for a week and then omitted for a week, to be resumed if the appetite begins to fail or the temperature to rise.

ROBIN thought that cacodylic medication should not be classed with arsenical as the action of the former excites, and that of the latter restrains organic changes.

GAUTIER said that the restraining action of arsenic follows large doses. In minute doses its action is also an excitant one.

At the session of June 13th DELORME, in speaking of the treatment of penetrating wounds of the chest, laid stress upon the good effects of absolute quiet, antiseptic dressing of the wound and, according to circumstances, the administration of morphin, ether, caffein, etc. On account of the excitement usually attendant upon a shot from a pistol, morphin is particularly beneficial to quiet the nervous condition. The patient should not be moved for some days.

Artificial serum for loss of blood is a valuable restorative, but it should be injected slowly lest it cause pulmonary congestion and increased respiration, and so bring about fresh hemorrhage. If hemothorax threatens life, the chest should be opened and the hemorrhage stopped by ligatures or tampons. On account of the danger of infection from the bronchi, pneumothorax after a penetrating wound of the chest demands immediate surgical interference.

LUCAS--CHAMPIONNIERE entirely disagreed with Delorme's treatment of hemothorax. In such conditions the additional traumatism of an operation may readily cause death, while apparently hopeless cases if left to themselves, may recover.

At the Academy of Sciences, May 23d, CHEVALIER said that he had isolated a fungus from cancers which could be cultivated in bouillon made from a cow's udder and in other media. The microscopic appearances of the molds varied greatly according to their age and the medium employed. Inoculations of the cultures into the skin of guinea-pigs, rabbits, and dogs produced not only local tumors, but secondary visceral nodules and a general cachexia. Microscopically the tumors resembled sometimes sarcoma, sometimes fibrosarcoma, sometimes carcinoma. In spite of these facts Chevalier hesitated to announce as yet that this fungus was the cause of the original tumors in man from which it was isolated.

June 12th, BOUCHARD and GUILLEMINOT reported that by means of the X-rays they had ascertained that in recent unilateral pleurisy, the ribs of the affected side move less, and are held more obliquely than on the well side. In chronic pleurisy and in long-standing unilateral phthisis, this obliquity still more increased. In persons so affected the range of motion of the ribs is much decreased so that respiration becomes largely abdominal even in women.

At the Surgical Society, May 31st, DELBET spoke of the advantages and disadvantages of castration in tuberculosis of the testicles. In seventeen out of twenty cases which he had examined, the disease was limited to the epididymis. It followed that indiscriminate castration was not to be advised. On the other hand, the three cases showed that it is sometimes necessary. He admitted the favorable influence of castration upon tuberculosis of the seminal vesicles and prostate, but a similar good effect may follow an epididymectomy for tuberculosis. None of these reasons, therefore, warrant the removal of a sound testis, which will continue functionally active, if its vessels remain, even though its excretory duct be removed. Removal of both epididymes does not necessarily produce impotence. The best incision is an anterior one opening into the tunica vaginalis. The testicle can then be examined and the diseased portions removed.

POIRIER said that a patient whom he had reported to the society as a case of cure of tuberculosis of the seminal vesicles still had the disease, as a recent examination showed. In five cases he had removed nodules from the epididymis only to find other nodules a few weeks later. Hence it is desirable to make a high incision and to inspect the whole epididymis and vas deferens. Many times it will be found desirable to remove these structures in their entirety.

At the session of June 7th, GUINARD discussed two cases of fracture of both clavicles by direct violence. Pluyette, the surgeon in charge of one patient, a young man of twenty-two years of age, made an immediate resection and suture of the left clavicle, and a month later the right one was treated in the same manner, as it had thrown out an enormous callous. The result on both sides was satisfactory. Guinard considered that the condition of the other patient precluded any operative effort. Two months after the accident, the man left the hospital with union of both bones, but with an enormous callous. He held that suture should not be performed immediately but should be reserved or postponed until it is plain that there is a defective callous or a false joint.

At the Medical Society of the Hospitals, June 2d, WIDAL described a peculiar type of tubercular enlargement of the spleen, characterized by an especial group of symptoms, and to which attention has not yet been called. The patient in question began to suffer from pain in the left hypochondrium at his thirty-first year. Later a tumor slowly developed, which grew till it reached the inguinal region, and occupied the whole left half of the abdomen. It was hard and lobulated. The patient died in eight years, never having had ascites. There were two cardinal symptoms, however, a cyanosis, manifest especially in the extremities and face, and an increase in the red blood-cells to about 6,200,000 and of the white ones to 6,000. There was no modification in the numerical relation of the different kinds of white corpuscles. At autopsy the spleen was found to measure twelve inches in length and to weigh over seven pounds. There

was scarcely any splenic tissue remaining, the whole organ being composed of tubercular nodules and sclerotic tissue. Microscopical tubercles were found in the liver, pancreas, and kidneys.

MOUTARD-MARTIN saw a case of primary tuberculosis of the spleen, in which there was an increase in the blood-globules, but no cyanosis.

ACHARD also mentioned a case of primary splenic tuberculosis.

At the Society for Dermatology and Syphilography, June 8th, NELATON said that the sole radical treatment of lupus is to remove it, making an incision beyond the diseased tissue as if for cancer. He had employed in a number of instances scraping and cauterization, but he had obtained a complete cure in only one instance, a case in which the lupus was upon the buttock.

BALZER showed a female patient with a glossitis in the third stage of syphilis. This trouble is very rare in the female, only 2 out of 850 syphilitic women being so affected according to Barthelemy.

FOURNIER said that this difference in sex is inexplicable. The tongue is best treated by injections of calomel. Sometimes the injections will cause the lesions to disappear. The use of corrosive sublimate is not to be recommended, as it may injure the teeth.

SOCIETY PROCEEDINGS.

THE AMERICAN PEDIATRIC SOCIETY.

Abstract of the Proceedings of the Eleventh Annual Meeting, Held at Deer Park, Maryland, June 27, 28, and 29, 1899.

DR. WILLIAM P. NORTHRUP of New York, President of the Society, called the meeting to order at 10 A.M. He took for the subject of his address "The Teaching of Pediatrics." He said, in part: The American Pediatric Society is made up largely of teachers of pediatrics, and the discussion of the methods of teaching this subject are worthy of consideration at this time. We may ask, What place should the subject of pediatrics have in the curriculum? What number of lectures and what amount of time should be given to this subject in an undergraduate course? In answering these questions I must draw upon my own experience. In the whole scheme of instruction we may admit the primary importance of general medicine, general surgery, and obstetrics, and then pediatrics shares with gynecology the second place. Our course in instruction at present includes didactic lectures, clinics, and section-teaching. There is a wave of sentiment against didactic teaching and no doubt the reaction against the former complete dissertations on disease is justified, but the didactic lecturer has yet a function, which is to present to the beginner the salient points of a subject, to give the essentials of a subject. Certain diseases must, in addition, be seen clinically in order to understand them, and in addition to the regular clinic, attended by all, there should be section-teaching so that the student may get very near the patient, and if possible each student should be allowed to repeat the demonstrations. In this way gavage, lavage, lumbar puncture, etc., can be best taught.

He then described what he considered the best arrangement of hospital rooms and wards for teaching purposes, and gave a list of diseases that should be taught entirely by the chair of pediatrics. He was enthusiastic about the value of a steriopticon for teaching purposes. In regard to the status of a teacher of pediatics he said that in their school the professor of pedriatics is not a member of the governing faculty but both he and his chief of clinic receive a salary.

In the discussion which followed DR. ROTCH of Boston said: In the early history of Harvard University very little time was given to the teaching of pediatrics, but the importance of the subject has gradually become more fully recognized until it now holds the same position as any of the other branches of clinical medicine or surgery. There is continuous teaching from October to June, and five exercises a week are given. The teaching is divided into didactic lectures, clinical instruction, and what we call clinical conferences. The ward-material is used in connection with that of the out-patient department. The examination in pediatrics is compulsory. We also use the lantern and slides and find this a most valuable means of instruction. At the beginning of the course the time is devoted to teaching the students what is especially distinctive of the early years of life, and having been well grounded, first in what a healthy child should be, they are then taught about the diseases. At the clinical conferences one of the students reads a paper on some case which he has been asked to work up, and the paper is discussed first by the students and then by members of the staff. The professor of pediatrics holds a chair in the faculty on an equality with any other member of the faculty and receives a salary.

DR. J. P. C. GRIFFITH of Philadelphia: We are not as progressive in Philadelphia as they are at Harvard, but we are gradually recognizing the importance of pediatrics. At present pediatrics is an elective study at the University of Pennsylvania, but I am glad to say that I think most students recognize the importance of this branch of medicine. In teaching I follow very much the plan described by our president in his paper.

DR. HENRY D. CHAPIN of New York: My work has been mostly with post graduate students, and I find that a large number of them are not well grounded in the principles of pediatrics. I think this is largely due to the fact that college authorities have not appreciated the importance of pediatrics and have not given it the proper place in the curriculum. It should not be tacked on to obstetrics or to gynecology, nor should it be treated as a specialty. It should be taught as a branch of general medicine.

DR. BLACKADER of Montreal: It has been my custom to devote my didactic lectures mainly to a consideration of infantile development and the different ways in which a disease manifests itself in the child as compared with the adult. The teacher in McGill University is associated with the chair of medicine, is not a member of the faculty and has no emoluments.

DR. S. S. ADAMS of Washington: I think the matter of proper recognition does not rest so much with the colleges as with the men themselves. If they insist upon proper recognition they will receive it.

DR. COTTON of Chicago: At Rush Medical College we have just adopted a plan by which the junior students are to be thoroughly drilled in the preliminaries and the seniors are to be given actual clinical experience.

"The Increase of Weight in Infants Fed Artificially" was the title of a paper by DR. HENRY KOPLIK of New York. He said: During the past nine years I have conducted in connection with my dispensary clinic a laboratory for the artificial feeding of infants and for the purposes of the present study infants below the age of nine months were observed, and as many collected as would remain under observation for a protracted period. I have studied, first, infants fed from birth, or nearly so, with a modified cow's milk; second, infants fed with breast and cow's milk. The modified milk supplied to these infants was in all cases the same, being composed of cow's milk diluted with an equal part of distilled water and with six per cent. of sugar of milk added. Infants below three months received three ounces of this mixture; above this age an ounce was added for every month until eight ounces was reached, when full milk was administered. The infants were then systematically weighed. In some of the older children, who did not prosper on this Heubner-Hofman mixture, I increased the amount of fat. My patients were all taken from an ambulatory service in the slums.

Tables are appended to show the gain in weight in these twenty-five cases, and I may say that I believe it is quite safe to predict that an infant, if it has the breast only once or twice in the course of twenty-four hours, will thrive on the bottle much better than on the bottle alone, and I am convinced that it is not advisable to deprive the infant of the mother's breast, no matter how scant the secretion of the breast may be. It is very difficult to decide how much cow's milk should be given such infants because it is impracticable to measure the amount of milk secreted by the breast in question. An observant mother and physician will soon find out, however, how much additional milk should be given in any case.

DR. ROTCH: While this work is very interesting I think it is not at all scientific. We cannot make a test of any method of feeding by the use of ambulatory subjects for the doctor can never tell what such children are getting when they are away from his observation.

DR. KOPLIK: I admit the force of this objection. I have not attempted to show the value of any particular mixture, but merely to determine how much weight a bottle-fed infant should be gaining if it were prospering.

DR. ROTCH: That is exactly what you have not shown and what cannot be shown by this method.

DR. MORSE: It seems to me Dr. Koplik has simply reported the gain in weight of a certain small number of infants fed on a certain mixture, and did not report the number or condition of those that did not thrive under the same circumstances, consequently the work is without scientific value.

DR. WENTWORTH: If Dr. Koplik meant to recommend any breast milk as better than artificial feeding alone I shall have to take issue with him, because I believe it is a well-known fact that careful chemical analysis has shown that when the mother's milk is scanty it is also apt to be a poor milk.

DR. CHAPIN: It seems to me, however, that clinical experience shows that it is better to give the mother's milk even though the albuminoids be high and the fats low than to cut it off entirely for substitute feeding.

DR. BLACKADER: I am rather inclined to agree with the last speaker for it is no light measure to at once put a child on artificial food.

DR. WENTWORTH: I recognize the value of mixed feeding, and I only criticised Dr. Koplik's point that even a very scanty supply of milk added to the artificial feeding is better than artificial feeding alone.

The next paper, on "Porencephalus. Case and Specimen," was presented by DR. GEORGE N. ACKER of Washington. The patient was a male colored child, four years old, in whom the mother noticed, soon after birth, that the eyes had a peculiar appearance and that he did not move his right arm or leg. He never made an attempt to walk, or talk, and was quiet at all times except when hungry, when he would emit a peculiar shrill cry. The muscles were soft and flabby, with a noticeable atrophy on the right side and the right forearm was strongly flexed and could not be extended. During his stay at the hospital there were pronounced nervous symptoms and the temperature at one time reached 107° F. At the post-mortem examination, twenty-six hours after death, it was found that the right hemisphere weighed 19½ ounces and the left 14½ ounces. The defect in development of the brain corresponded pretty closely to the parts supplied by the middle cerebral artery and seemed to be due to some change in this artery. The fissuration was quite atypical.

"A Preliminary Communication on the Separation of Bacteria from Milk by Natural Processes" was read by DR. R. G. FREEMAN of New York. He said: I have previously expressed the opinion that raw milk, even when the conditions of the dairy are satisfactory, cannot be considered safe for administration without heating because it is likely to contain a considerable number of bacteria, and we cannot make sure that among these there may not be the organisms that produce diarrhea, typhoid fever, diphtheria, or other diseases. For that reason I desire to make a preliminary report on some work which, while incomplete, seems to show that the great bulk of bacteria which contaminate milk may separate from it by natural processes without the use of filtration, heat or preservative agents. If milk is allowed to stand until the cream separates, and then if a separate analysis is made of the milk and of the cream it will be found that the cream contains 300 times as many bacteria as the milk, and with the rising of the cream about ninety-nine per cent. of the bacteria are removed from the milk. This separation may be due to the better oxygenation of the upper layers, which induces the organisms to rise to the surface, or it may be due to their being

carried up by the fat globules in their process of inverse precipitation. Should this prove to be correct we may be able to pasteurize or sterilize the separated cream and then add it again to the practically germ-free milk for administration as a food.

The next paper, entitled "Sarcoma of the Cerebellum in a Child, Aged Four Years," was read by DR. S. S. ADAMS of Washington, D. C. The patient was first taken ill in June, 1897, the prominent symptoms being high fever and vomiting. Under treatment she apparently recovered in about a week, but a month later she began to complain again of intense pain in her head and right arm. This was followed by weakness of the legs, the child frequently staggering and at times falling. She slept well at night and seemed to suffer principally in the mornings and afternoons. A second attack of fever and vomiting developed and she lost control of her bowels and bladder. At the autopsy the diagnosis of cerebellar tumor was verified. The brain weighed thirty-nine ounces.

"Enlarged Bronchial Nodes" was the title of the next paper, read by DR. J. PARK WEST of Bellaire, Ohio. He said: Within a comparatively short time I have seen eight children in whom I have made the diagnosis of enlarged bronchial nodes and in every case the patient had come on account of the accompanying cough. In every case there seemed to be a more or less general involvement of the lymphatic system. Every child had enlarged cervical nodes. In six there were, in addition, large axillary nodes, and in five large inguinal nodes. All had large tonsils, two had adenoids that interfered with nasal respiration, and in three the spleen could be felt. It seems to me that the enlargement of these nodes was the local manifestation of a status lymphaticus.

"Report of a Case of Transposition of the Viscera of the Great Vessels, with Photograph" was read by DR. J. P. CROZER GRIFFITH of Philadelphia. The patient, a boy eight months old, began three months previous to admission to the hospital to have attacks of cyanosis and dyspnea, lasting about twenty minutes and occurring as often as half a dozen times a day. On admission the child seemed ill and was distinctly cyanotic. A systolic murmur was heard with greatest intensity at the pulmonary cartilage and at the third left interspace close to the sternum, as well as at the aortic cartilage and the apex. It was not transmitted to the axilla and there was no thrill. The diagnosis of pulmonary stenosis, probably associated with a perforate septum ventriculorum was made. The child soon sickened with what appeared to be symptoms of pneumonia, cyanosis increased, and he was so weak that he was treated purely symptomatically and the actual condition of the viscera was not investigated. I have here the post-mortem specimens which show the following peculiarities. The aorta arises from the right ventricle and passing upward arches slightly from left to right, then almost directly backward, over the right bronchus, and descends upon the right half of the vertebral column. The coronary arteries arise from the right ventricle. The pulmonary artery rises from the left ventricle to the left of and slightly posterior to the origin of the aorta. The liver lay chiefly to the left side and the spleen in the mid axillary line in the right hypochondrium. There are two supernumerary spleens.

DR. R. G. FREEMAN of New York then read a paper, entitled "Observations on Certain Abnormal Conditions in Livers of Infants and Children." He said: I have carefully studied the autopsy reports of some 500 cases at the New York Foundling Hospital, with reference especially to the conditions of the liver. In this investigation I have found that cirrhosis of the liver is very rare in infancy, as is also the condition of waxy liver. With regard to the condition of fatty liver I have found some points that quite contradict the ordinary statements given in the text-books, and am led to formulate the following conclusions: (1) Fatty livers occur very frequently in the infants and children that come to autopsy at the Foundling Hospital—about forty-one per cent. of all cases. (2) The condition of nutrition of the child apparently has no connection with the fatty condition of the liver, the condition of nourishment in the subjects having fatty livers averaging about the same as in the whole number of cases. (3) Fatty livers occur rarely in the chronic wasting diseases, such as marasmus, malnutrition, or rachitis and syphilis, unless such condition be complicated by an acute disease. (4) With tuberculosis fatty livers do not occur more frequently than in other conditions. (5) Fatty livers occur most often with acute meningitis, gastro-intestinal disorder, measles, and diphtheria.

"A Case of Meningitis Due to the Typhoid Bacillus" was reported by DR. A. H. WENTWORTH of Boston. The patient, four years of age, first seen October 1, 1898, had always been a delicate child but had never had any previous illness. For six days prior to entrance into the hospital she had been feverish, drowsy, without appetite, and was said to have been delirious at times. On admission there was considerable apathy from which she could be aroused without difficulty although she became quite irritable. The urine contained a faint trace of albumin. Its specific gravity was 1015. The examination of the blood showed 12,000 leucocytes per cubic millimeter. A provisional diagnosis of typhoid fever was made. The next day the nurse reported that twice during the night the child's body became rigid, the hands clenched and the eyes were rolled upward, this condition lasting about one minute each time. An examination of the eyes was made, but without result, and from fluid secured by spinal puncture no growth was obtained. The following day there was bulging of the right tympanic membrane and when paracentesis was performed there was an escape of air, but no fluid. Widal's test was negative, though the clinical symptoms were those of a moderately severe typhoid fever. On October 15th a second blood count showed 9600 leucocytes. On the 16th the child became very stupid and by evening was unconscious. Tonic and clonic convulsions and Cheyne-Stokes respiration supervened. On the following day strabismus appeared, and there was general rigidity of the muscles of the trunk and extremities, with spasms at intervals. Death occurred on the seventeenth day.

Lumbar puncture was performed a few hours before death, and the spinal fluid obtained was turbid and soon showed a deposit of puriform material in the bottom of the test-tube. A careful study of this deposit by all methods showed a pure culture of the typhoid bacillus.

In considering the diagnosis I would say that in favor of typhoid fever there is the onset, the duration of the disease, the character of the temperature-charts, the enlarged spleen, the failure to obtain evidence of the presence of other diseases by means of physical examination, and the negative result of the first lumbar puncture showing the absence of meningitis at that time. As against the typhoid diagnosis there was the failure of the Widal test and the occurrence of doubtful convulsions in the early period of the disease. In favor of meningitis due to the typhoid bacillus there was the presence in the meninges of a purulent exudate which contained numerous typhoid bacilli, and the failure to detect the presence of other organisms by means of most careful bacteriologic examinations.

"Vaccinoid" was the title of the next paper, read by DR. F. FORCHHEIMER of Cincinnati. He said: The subject of this paper is the peculiar manifestations of vaccinia, which have usually been denominated false or spurious vaccinia. Recently the French investigators have done much work to show the relation of these conditions to vaccinia. According to their classification by vaccinoid is meant an atypical course of the lesions produced by the act of vaccination, and in their external manifestations they have the same relation to vaccinia that varicloid has to variola. The speaker reported a number of cases observed in his own practice with a careful study of the subject and offered the following conclusions: (1) Vaccinoid is always modified vaccinia. (2) Vaccinoid protects against variola. (3) This protection is less than that of vaccination. (4) Vaccinoid in the majority of instances is due to faulty method, rarely to increased resistance or immunity. (5) In primary vaccinations vaccinoid should always be followed by repeated attempts until either true vaccinia is produced, or until positive evidences of immunity exist. (6) In the presence of an epidemic of variola vaccinoid should be followed by revaccination, both in primary vaccinations as well as in revaccination. The more thoroughly vaccination is performed the fewer will be the cases of vaccinoid, provided the virus is perfect. Vaccinoid is an abortive vaccinia, and abortive vaccinia is not perfect vaccination.

"Acute Articular Rheumatism in Infants under One Year of Age, with Report of a Case," was read by DR. D. J. MILTON MILLER of Philadelphia. He said that from an extensive review of the literature upon this subject it seems that acute articular rheumatism in infants is very rare. A number of cases have been reported as such which would not bear the test of the essential features of the disease as seen in adults. The patient that he had observed is an infant nine months old with an attack of genuine acute polyarticular rheumatism. In the diagnosis of such a rare condition every other possible cause for the joint affection must be excluded before we can assert that a given case is rheumatic. The points necessary to be established in making such a diagnosis are: mobility, proneness to migrate from joint to joint, absence of all tendency to suppuration, frequency of inflammation of the cardiac serous membranes, the favorable influence of the salicylates, and a family history, together with the absence of such affections as are apt to be attended by inflammation of the joints. According to this test only nineteen undoubted instances of acute articular rheumatism occurring in infants under one year were found in the literature.

The next paper, entitled "Urticaria of Mucous Membranes," was read by DR. F. A. PACKARD of Philadelphia. He said: This paper is written to suggest the possible frequency of the condition of internal urticaria as an explanation of certain cases otherwise difficult to understand, such as the so-called "stomach cough" and "sore throat of indigestion." I have seen two cases of urticaria associated with asthma or bronchitis, and with the cases reported in the literature these make thirty-four in which the connection between the skin-lesion and the respiratory symptoms was quite close. The order of the occurrence is not uniform, and while in many cases there seems to be a balance between the cutaneous and respiratory lesions the two systems are frequently involved at the same time

"The Renal Complications of the Acute Enteric Diseases of Infancy" was the title of a paper read by DR. JOHN L. MORSE of Boston. The essayist said in part: During the Summer of 1898 I examined the urine of seventy infants ill with uncomplicated diarrheal diseases. They were all out-patients at the Infants' Hospital and hence many could not be examined more than once. All were under two years of age, forty-seven being under one year. The urine was obtained by catheterization, scrupulous care being taken as to cleanliness of the catheter. Tables showing the extent of the investigation and the results of the examinations are appended. I believe it probable that more- or less-marked degenerative changes occur in the kidneys in many, if not most, patients. These degenerative changes are due to the action of bacteria or toxins, usually the latter. Inflammatory changes are rare. Albuminuria occurs in about fifteen per cent. of all cases and casts are found in sixty per cent. of these. The presence of albumin and casts does not justify the term "nephritis," and is not of bad prognostic import.

DR. FLOYD M. CRANDALL of New York then read a report of "A Case of Scurvy in an Infant Six Weeks Old." The patient was born October 12, 1898. The father was not in good health, having long suffered from chronic rheumatism, while the mother, who had a valvular cardiac disease, following rheumatism, was anemic and did not recover from the effects of confinement for many weeks. The child was not strong and when seen in the sixth week there was a well-marked condition of scurvy. The child had never taken anything but breast-milk, which was very abundant, though thin and watery. So abundant was the supply that though the child nursed frequently it never emptied the breast and consequently only received "fore-milk," which contains a much smaller amount of fat than does the later milk. The child

was allowed to continue nursing, but pasteurized cream was given to make up the proper amount of fat, and the results were prompt and satisfactory so far as the scurvy was concerned, but the child subsequently died from an attack of pneumonia.

Dr. Griffith: In a recent text-book I find the statement, in italics, that in scurvy occurring before the stage of eruption of the teeth there is no characteristic lesion on the gums. In the collective investigation made by this society last year twenty-four such cases were reported. Of course the society did not assume the responsibility for all of these, but I feel that certainly all the reporters could not have been wrong.

"Congenital Cystic Kidneys, with Report of a Case" was read by Dr. E. E. Graham of Philadelphia. He said: I was called to see this baby about twenty minutes after its birth. It was well developed but distinctly cyanotic, breathing feebly, and the cyanosis appeared to be more marked than the heart's action and feeble breathing should produce. The body was limp and the child could not be aroused. Death occurred forty-five minutes after birth. The autopsy made four hours later showed a normal heart, small areas of lung tissue containing air; liver, spleen, and mesenteric glands normal, and both kidneys cystic.

"A Case of Multiple Osteomyelitis in an Infant" was reported by Dr. T. M. Rotch of Boston. The patient was a female infant, one month old, with a history of a previous erysipelas starting from the umbilicus and running down on the left leg. At the time seen the diagnosis of cellulitis and probable osteomyelitis was made. An incision was made along the inner side of the tibia and an abscess found under the periosteum. A second abscess appeared at the posterior border of the deltoid. Cultures taken from both these abscesses showed the staphylococcus aureus. The infant died nine days later and autopsy showed a multiple osteomyelitis.

The following officers were elected for the ensuing year: President, Dr. Henry Koplik of New York; secretary Dr. Samuel S. Adams of Washington; treasurer, Dr. J. Park West of Bellaire, Ohio.

THE INDIANA STATE MEDICAL SOCIETY.

Abstract of the Proceedings of the Annual Meeting, Held at Indianapolis, Ind., June 6 and 7, 1899.

The annual meeting of the Indiana State Medical Society held at Indianapolis has been a great success. The attendance and *esprit de corps* partook of the general activity of the community and inclination to hustle observable everywhere. Excellent papers were read and vigorously discussed, one or two of which deserve especial circulation, as, for instance: "Diphtheria and Antitoxin," by Dr. A. E. Powell of Marion, who reported an outbreak of the disease in the orphanage of his county. In substance he related that on January 15, 1899, a case of throat trouble developed in a female inmate, which was diagnosed as tonsillitis. There were sixty-eight children of all ages and both sexes in the institution at that time. Within the two weeks following twenty-five cases of sore throat occurred and in several of them microscopical examination revealed the specific bacillus of diphtheria. The early cases progressed favorably and it was not thought necessary to use antitoxin. Gradually, however, the severity of attacks increasing, its use was begun in the case of a girl, aged six years, who developed severe pharyngonasal diphtheria. As she improved in the beginning under the treatment the local manifestations disappeared, but later she succumbed to paralysis of the heart.

The second patient received 1000 units as an initial dose. This amount was repeated in twenty-four hours and the child recovered, although his heart was very weak. Three other children developed the disease in quick succession and were treated with like results, when it was determined to give an immunizing dose of the antitoxin to all of those remaining unaffected. Accordingly, to each of thirty-eight children, 500 units was administered. There were no skin eruptions in any case and no abscesses formed. None of those injected for immunization developed the disease.

This experience led the speaker to the following conclusions:

1. When in doubt about a case of sore throat it is safest to call it diphtheria and treat it as such in every respect.

2. Antitoxin is the most reliable remedy we have today in the treatment of diphtheria.

3. Antitoxin proves itself most valuable when administered early in the course of the disease and in sufficient quantity.

4. Antitoxin is a positive preventive of diphtheria when administered to those who have been exposed to the disease.

In striking contrast to this paper was that by Dr. T. J. Griffiths of Crawfordsville, who selected the subject of "Hydrotherapy in the Treatment of Diphtheria." He took occasion to rap the antitoxin treatment, along with most others that have preceded it, characterizing them as being in many instances blind, cruel, and irrational. After calling attention to the rapidity of proliferation in childhood and the conditions necessary for the rapid development of germs either in or out of the body, *viz.*, heat, moisture, and fertile soil, he proceeded by noting the fact that ice applied to the throat lowers the temperature of the part below that at which germs can thrive and grow. Ice, he said, is as certainly a specific for diphtheria as is quinin for malarial poison; no glandular engorgement or serous effusion ever takes place in the presence of the cold produced by the application of ice. Under this treatment no septic swabbing with any preparation of iron becomes necessary; no septic poisoning ever can or will take place in its presence; it is grateful, soothing, invigorating to the patient, and hastens convalescence without exhaustion. The same treatment is applicable in scarlet fever and in croup; no remedy is equal to it in certainty and rapidity of action. He has seen a child with that never-to-be-forgotten whistling respiration, cyanotic from deficient aeration relieved in a few minutes by the application of a snow-poultice. Cold

is non-toxic, is a tonic, germicide, and febrifuge, and is easily procurable and regulatable by the physician. He cited Pepper and May as authorities on the question of therapeutics of cold.

"The Clinical Features of Malaria as Seen at Camp Mount," by DR. W. T. S. DODDS of Indianapolis, held the close attention of the assembly on account of the peculiarities manifested in the persons of the recently returned troops from Cuba and Puerto Rico. The speaker said that in these subjects malaria does not present itself in its characteristic forms; the surroundings and environment have much to do in modifying the character which malarial manifestations assume. If the person infected be robust and healthy previously the greater the liability to a typical course of malarial fever. On the other hand, if he be anemic, and especially if he has had previous attacks, the course of the disease may deviate widely from the ordinary and typical form; he may or may not have febrile disturbance; if fever be present it is likely to be of low degree and assume the typhoid form. Lawrence places the febrile activity centers in the brain and assumes that as the malarial process progresses these centers become less and less sensitive to the presence of the parasite.

The temperature ranges about 99° F. and the subject presents a picture of tuberculous infection, often grows worse and finally presents symptoms both grave and obscure. Slight splenic engorgement, in addition to the emaciation, is about all a physical examination will reveal. The emaciation and irritability are progressive. Marked stomach and intestinal complications may intervene and the subject succumb to a fatal dysentery. While those who live in malarial districts may finally become immune so long as they remain in the same locality, if they change about they acquire as great a liability to disturbance as originally existed. The apathetic condition of the patient, the coated tongue, the pain in the head, back, and loins, and the enlarged spleen, in connection with epistaxis, closely resembles typhoid fever. In the congestive form the physical appearance does not correspond to the intensity of the trouble; the pulse is slow, the rhythm disturbed, and valvular murmurs are often audible; the patient is listless, pale, and exhausted; the extremities are cold and irresponsive to local heat or other applications and the case is alarming.

That typhoid fever may be complicated by malaria, and *vice versa*, is an accepted fact; the two diseases may be associated together and their symptoms, each distinctive, be plainly indicated by the clinical features of each. Other complications, such as pneumonia, enteritis, and acute rheumatism, may occur.

The treatment may appropriately be divided into 3 classes: (1) Complete rest; (2) specific medication; (3) treatment of complications. In the chronic form a pill containing strychnin, iron, and arsenic forms a good adjuvant to hydrochlorate of quinin, which should be followed by tonics, careful diet, and exercise in the open air.

"The Hematozoon of Malaria" formed a fitting subject to follow the foregoing paper, and its microscopical appearances were fully described by DR. THEODORE POTTER of Indianapolis.

DR. F. B. THOMPSON of La Fayette presented a paper on "Leucemia." He said that the disease is characterized by the persistent and rapid increase of the proportionate number of white blood-corpuscles, together with enlargement of the spleen and the lymphatic glands. It is uncommon among children; men are more liable to it than women, in the proportion of two to one. While heredity does seem to exert a great influence upon its occurrence, still there seems to be a condition of temperament or cachexia which is an important factor, especially so in some families. In all well-marked cases the skin presents the pale, waxy appearance of decided anemia; occasionally the tendency to exuberant deposit of pigment is well marked, giving the bronzed appearance of Addison's disease. With emaciation well marked the extremities may be edematous, or general anasarca or ascites may be present. Not known to be due to specific toxic elements the symptoms are those of an indolent septicemia. Insidious in its beginning the opportunity to examine the blood is not generally presented until the disease is well established. The chief element found to exist on examination of the blood is in the superabundance of myelocytes derived from the bone-marrow. Assuming the possibility of suppuration of the blood it is not difficult to understand why the leucocytes of the blood are so enormously increased. The post-mortem appearances of the spleen, lymphatic glands, liver, and kidneys are explained when regarded as concerned in the filtration of fluids and elimination of effete and toxic substances.

In its treatment arsenic stands almost alone, doubtless on account of its ability to check putrefaction and tissue metamorphosis. Quinin in large doses has been employed, but when long continued, 3 grains, four times a day will accomplish all that can be reasonably expected of it as a remedy. Oil of eucalyptus, which has been so highly recommended, the speaker has found of little service. It would appear to be essentially a septic disease and dependent upon a toxic agent for its causation. Primarily a disease of the blood, the glandular involvement occurs as a natural consequence.

DR. L. J. WILLIEN then read a paper on "Thyosanamin as a Resolvent for Scar-structure, Rendering It Pliable No Matter Where Situated." Derived as an extract from the oil of mustard by the addition of three or four times it weight of ammonia it forms colorless rhombic crystals having a garlic odor and very bitter taste. It produces both diuresis and diaphoresis in doses of from 4 to 8 grains, three or four times a week. It should not be administered oftener than once daily. It has been injected in doses as high as 2 drams into carcinomatous tumors without any stomach distress and without appreciable good effect upon the malignant growth. It has been recommended in cases of keloid, lupus, enlarged and tubercular lymphatic glands of the neck, sarcoma, fibroids, and syphilis. Its effects in cases of syphilis were manifested in the following case: J. G., aged fifty-six years, of good family history, given to the free use of

alcoholic stimulants, contracted some years ago a specific disease. Height 6 feet, weight 200 pounds, in 1896. He complained of vertigo, double vision, dizziness, and tendency to fall forward when walking. Numbness of the tongue and aphasia coexisted. The left side of the body became weak and was followed by cephalagia. Placed under a strong course of iodids and mercurials without any satisfactory results he repaired to the Hot Springs, returning in six weeks without any beneficial results. He consulted two prominent physicians in St. Louis and then went to Chicago for the same purpose. All agreed that he had a cerebral tumor. Confusion of ideas and impaired memory, diplopia, divergent strabismus, dilated pupils, vascular sclerotics, aphasia, numbness of the tongue, dysphagia, loss of strength and mobility of the left arm and leg, and persistent pain in the occipital region extending to the eyes and preventing sleep were marked at this time. He was given 15 minims of a 15-per-cent. solution of thyosanamin in equal parts of water and alcohol, hypodermically, three times a week. Four months having elapsed he is to-day regarded as a well man and able to attend to his business. Other cases of the same character, treated in the same manner, showing equal improvement, were reported. The good effects of the drug have been manifested even in cases of tuberculosis.

REVIEWS.

LEGAL DECISIONS, MEDICAL. By W. A. PURRINGTON, of the New York Bar. Counsel of the New York State Dental Society; Lecturer on Medical and Dental Jurisprudence in the New York College of Dentistry, etc. New York: E. B. Treat and Co., 1899.

THIS is a booklet of 105 pages, most of which is devoted to the citation of decisions in 131 cases at law, involving suits by, or against, physicians and dentists. These citations are from advance sheets of the *International Medical Annual*. The decisions are interesting to peruse but their compilation is of more value to lawyers than to physicians. The work contains a brief introductory article on the justification of State Examining Boards and medical laws and the means of enforcing these laws. To these are added "A Brief for the Prosecution of Unlicensed Practitioners," and a reprint from the Mew York *Medical Record*, of the author's article on "Manslaughter, Christian Science, and the Law."

CHEMISTRY: GENERAL, MEDICAL, AND PHARMACEUTICAL. Including the Chemistry of the United States Pharmacopœia. A manual of the Science of Chemistry, and its applications in Medicine and Surgery. By JOHN ATTFIELD, F.R.S. Sixteenth edition. Philadelphia and New York: Lea Brothers & Co., 1899.

AGAIN we find a new edition of this most comprehensive manual, the fifth edition to appear within the short space of ten years. It is hardly necessary to mention that all the newest discoveries and theories are embodied in this edition, and that the book presents the science of chemistry in a most lucid manner to the medical student and practitioner. Toxicology, general chemistry, analysis of physiological as well as of other materials are discussed, and the book presents a most complete treatise on this vast subject. It is a work fit as well for the student as for those in search of a good reference book.

It is most gratifying to notice that the metric system has been given the attention it merits. A complete index occupying sixty-three pages and embracing over ten thousand references greatly enhances the value of the book. Eighty-eight illustrations serve to explain the carefully compiled text. The author is thoroughly *au courant* in all the details of interest and embodies in his text all of the latest developments of chemical principles and the latest applications of chemistry to medicine and pharmacy.

THERAPEUTIC HINTS.

For Irritating Cough of Phthisis.—When not accompanied by much expectoration the following mixture is recommended:

℞	Codeinæ	gr. iv
	Ac. hydrochlor. dil.	ʒ ss
	Spts. chloroformi	ʒ iss
	Syr. limonis	ʒ i
	Aq. dest. q.s.ad.	ʒ iv.

M. Ft. emulsio. Sig. One teaspoonful at short intervals when cough is troublesome.—*Murrell.*

For Catarrhal Affections Following Measles and Whooping-Cough.—HOCK advises the employment of creosote, prescribing as follows:

℞	Creosoti	*m.* xv
	Saccharini	gr. ¾
	Ol. morrhuæ	ʒ iii.

M. Ft. emulsio. Sig. From 2 teaspoonfuls to 3 tablespoonfuls a day.

An Analgesic Lotion.—

℞	Atropinæ sulphat.	gr. ii
	Morphinæ sulphat.	gr. x
	Ac. oleici pur.	ʒ i.

M. Sig. For inunction at painful spot. Cover with cotton and rubber tissue.

Preservation of Solutions of Cocain.—JONAS of Brussels has experimented with solutions of cocain in distilled water, with and without the addition of various preservative agents, such as boric acid, glycerin, carbolic acid, etc., in different strengths. He finds the following solutions to remain permanently clear and unchanged:

1.	Cocain hydrochlor.	gr. iv
	Ac. carbolici cryst.	gr. ⅙
	Aq. dest.	ʒ iiss.
	M.	
2.	Cocain hydrochlor.	gr. iv
	Ac. salicylici	gr. ⅙
	Aq. dest.	ʒ iiss.

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ORIGINAL ARTICLES.

CONSTIPATION CONSIDERED FROM THE STANDPOINT OF THE PROCTOLOGIST.[1]

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IT has occurred to me that a subject as trite and homely as constipation should not be approached in this presence without an introductory word of apology and explanation. I have not presumed to think that I have anything particularly new to offer; even to the furthest details the subject has been canvassed by other and abler writers. But in spite of its volume this portion of our literature has impressed me chiefly by reason of the vagueness of conception and indefiniteness of expression which characterize it. If I shall be able to contribute anything to a clearer and more systematic view of the subject my purpose will be fully accomplished.

It is more than unfortunate that confusion should exist in reference to this affection. From the standpoint of frequency no pathologic condition in the whole range of human ailments occupies so conspicuous a position; and from the standpoint of the rectal surgeon none is of such fundamental and far-reaching importance. Yet strange to say, judging from their published works, more than one of our most distinguished modern specialists have regarded it only of sufficient moment to be accorded casual mention in the discussion of diseases directly traceable to it. This to me is an anomalous position. It is scarcely conceivable that a proctologist could fail to realize the importance of the subject. Nor is it possible that there could be a reasonable question as to its falling properly within his province. To one without the fold the inference might not seem wholly unjustifiable that at least one specialty in the great brotherhood of medicine thinks less of prevention than of cure.

Broadly speaking, constipation is a disease in which, either directly or indirectly, the entire organism is implicated. It would manifestly be impossible, therefore, to attempt its consideration in all its phases; nor, indeed, is it desirable to do so. But the subject as set forth in our title presents a less hopeless undertaking and will, I trust, permit the development of practical, underlying principles both in essay and discussion.

In order to gain an intelligent comprehension of our subject, several preliminary items seem to me worthy a word of mention. In the first place much of the confusion in reference to constipation doubtless springs from lack of definite idea as to what the term means. Neither hard stools, nor dry stools, nor other kind of stools constitutes the disease. These expressions are merely descriptive of physical properties, and costiveness embraces them all. Constipation is something other and more. Correctly speaking, it is the condition of which costiveness is merely a symptom. Costiveness is not necessarily a disease, constipation always is, and, though usually associated, the former may exist without the latter. Again, constipation is a relative term. The line between the physiologic and the pathologic is not clearly drawn, and remarkable differences in individual habits may not be incompatible with ordinary health. With one person two movements of the bowels a day may be the normal; with another one in two days. And cases are on record by reliable observers in which not only days but weeks and even months elapsed without an evacuation and still the patients lived and flourished. So that neither the character of the stools nor the intervals between them can be properly regarded distinctive of the disease.

What, then, is constipation? The definitions given by the lexicographers lack that precision which should proceed from clear-cut ideas on the subject. In all I have consulted costiveness and infrequency of passages are employed as synonymous terms. If my conception of the disease is the true one, constipation may be broadly defined as *a diseased condition of the alimentary canal characterized by a modification of function which results in the pathologic retention of fecal matter*. With this definition for a foundation let us take a brief glance at the general subject, with reference especially to etiology. The causes of constipation may be conveniently arranged under separate headings, though it is to be understood that several, or possibly all, may be operative in any given case.

First. Causes springing from the violation of hygienic law. Under this head would come errors of diet and improper habits of life, to one or both of

[1] Read at the first annual meeting of the American Proctologic Society, held at Columbus, Ohio, June 7, 1899.

which sources, without a doubt, a large proportion of all cases may be traced. Chiefly notable in regard to diet are the two opposite extremes of habitually consuming food which leaves too much or too little residue. Evil results equally from both. Peristalsis is largely dependent on the mechanical irritation of the bowel contents. In the one case this would be interfered with by over-distention from the excessive accumulation of refuse material; in the other the requisite amount would be lacking. Many articles of diet have in themselves a constipating tendency. This applies more particularly, perhaps, to beverages of which tea and alcoholics are familiar examples.

In reference to habits of life, much of the greatest practical importance might be said. The significance of this factor in the production of constipation can scarcely be estimated. Yet it is a very open question whether it is fully appreciated even by the profession. The expression of the old physician to the effect that if his bowels moved naturally in the morning he felt sure he would not die that day, contains the germ of a profound truth. In the hurry and turmoil of modern life, particularly in the large centers, the attention to this function is made a matter of convenience and disease is the harvest of neglect.

Second. Defective innervation. This expresses itself either in (*a*) atonicity of the muscular coats of the intestines resulting in impairment of peristalsis; or (*b*) in decreased secretion. These conditions usually coexist and may be primary or consecutive. If the former, the constipation develops because of them. If the latter, they develop because of the already existing disease. The largest group of cases exemplifying these conditions is probably to be found in those of sedentary habits. The explanation is obvious. Paralysis is responsible for a smaller but more hopeless class of cases. In the first-mentioned class the origin of the trouble is purely functional, in the latter organic, yet the phenomena presented are identical in nature and the pathology involved different only in degree. Though mentioned as a separate cause, and rightly so, it is evident that defective innervation may be merely an effect of other causes. In fact, however brought about, it is a condition which may be said to exist to some extent in practically every case.

Third. Closely allied to the preceding, but entitled to separate classification, is the sluggishness of bowel function, often amounting to true constipation, met with in many diseased and debilitated states of the general health. Of these, anemia, laxness of the abdominal walls, obesity, diabetes, and great bodily weakness from any cause may be cited.

Fourth. A more obvious and familiar cause of constipation consists in the habitual use of purgative medicines. The pernicious effect of this practice requires no explanation nor emphasis. Yet its prevalence, already alarmingly widespread, is increasing at a rate which bids fair soon to make it universal. Fostered and encouraged by conscienceless advertisers, it belongs to the large and growing class of evils for which a venal press is responsible and for the suppression of which active measures are urgently demanded. Full redress is hardly possible short of legislative enactment. But the medical profession, by recognizing its duty and aggressively facing it could accomplish much. Bringing the issue nearer home, the proctologist, from the nature of his calling, is confronted by an obligation even greater. And that spirit of broad philanthropy which is the mark of the true physician demands of him all the labor and all the sacrifice that would be entailed by active warfare against this evil.

Fifth. Mechanical obstruction. This may occur at any point in the intestinal tract and vary widely both in pathology and degree. Though constipation is usually present, obstipation is the term more exactly descriptive of the resulting condition. Of the many causes operative under this head I stop for a word of comment upon only one. That true valves are present in the normal rectum modern investigation has left little room to doubt. But their significance as factors in the production of disease is only now being satisfactorily demonstrated. The ingenious methods employed and brilliant results obtained by Martin of Cleveland, in work along this line cannot fail to be convincing to those acquainted with them. Obstipation and hypertrophied valves are terms with which he has made us familiar. I have associated them in this connection in order to impress their relation and emphasize a fact. Other causes of mechanical obstruction, malformations, stricture, etc., readily suggest themselves, but must be passed with the mere allusion.

Sixth. Finally, in reference to etiology, I merely mention painful affections of the anus. This cause will be elaborated in the context.

Now to come to questions more immediately concerned in our present purpose. From the point of view of the proctologist this subject is of peculiar interest. The relations between constipation and diseases of the rectum are not only intimate but especially noteworthy in that either may be cause, effect, or both with reference to the other. I know of no other conditions in which such relationship is so clearly marked and so frequently manifest. With respect to rectal diseases, it is a rule to which there are no exceptions that every lesion in the entire

category may either be caused or seriously modified by constipation. With respect to constipation, though perhaps not so generally recognized, it is clearly demonstrable that rectal disease often stands to it in the light of causative factor. And either effect, once established, reacts powerfully and positively in intensifying the very condition which gave rise to it.

Considering constipation first in the active or causal rôle, the propositions stated are easy of verification. That venous congestion is the great underlying factor in the production of rectal diseases those who have given serious thought to the question will require no proof. The anatomical position and structure of the rectum, together with its peculiar function, render this to a greater or less extent its normal condition. Constipation augments it. A collection of feces in the colon or sigmoid acts as an impediment to the return blood current; and the dislodgment and extrusion of such accumulation, requiring as it does the cooperation of the powerful abdominal muscles, must result in converting passive into very active congestion, at the same time furnishing ready means for the infliction of traumatism. If the fecal mass, itself normally of firm consistence and more or less nodulated, contains a projecting foreign body, injury must attend its passage. Fissure, hemorrhoids, prolapsus, proctitis, ulceration, abscess and fistula are the more conspicuous lesions which may be traced directly to constipation and its coincident phenomena.

The present unsettled state of our knowledge as to the etiology of malignant growths permits no definite assertion in this connection. But discriminating observation with reference to their favorite sites justifies the assumption that mechanical irritation is a factor both constant and weighty. Statistics show that some 3 per cent. of all cases of cancer are located in the rectum. If friction may be admitted as a causative agency, the function of this organ, particularly when it has to do with costive stools, would render it an ideal situation for the development of this disease and the wonder is that the proportion is not even greater. To place malignant growths, therefore, in the list of rectal diseases for which constipation is, in a sense at least, responsible seems to be entirely in keeping with the most advanced thought upon the subject. The analogous nature of the gross lesions resulting from syphilitic and tubercular deposits in this locality would warrant a similar deduction in regard to them. But, attractive though the question is, it must be passed with these few comments.

Turning now to rectal diseases as a cause of constipation, two considerations under this head are worthy of special note. The first is pain. In those lesions situated about the extremity of the rectum pain is practically always a prominent symptom, and the passage of a stool of even normal size and consistence is an event contemplated with reluctance and dread. Remembering that defecation is in large measure a voluntary process, this is an item of greater import than might at first sight appear; and, while applicable, perhaps, with special force to children, so long as human nature shrinks from suffering, painful affections of the rectum and anus must be recognized in the etiology of this disease.

The second consideration is the influence of the reflexes from rectal lesions in the production of constipation. Here we enter upon less certain ground. Much is surmised, but very little really known about reflexes. Theories innumerable have been and are being advanced until it almost seems that every phenomenon not otherwise explicable is to be laid at their door. This tendency has worked to the disrepute of an etiological element which, though little understood, is yet both potent and pronounced. General discussion of the subject could scarcely be undertaken within the proper limits of a separate paper. But a few practical remarks with regard to the mechanism and manifestations of rectal reflexes seem absolutely necessary to elucidation of the idea before us.

The pouch of the rectum derives its chief nerve supply from the sympathetic system through the pelvic plexuses; the portion embraced by the sphincter muscles and the tissues of the anus almost entirely from the cerebrospinal system through the fourth sacral and internal pudic nerves. The former system, presiding over the functions of organic life, has to do largely with secretion and involuntary motion; the latter with the functions of animal life, sensation and voluntary motion. Whether the same is true of other localities or not, my observation has convinced me that rectal reflexes conform to at least one general rule, namely, that the reflex is expressed through the same system as that involved at the point of origin; in other words, that there is no transference of nerve impulse from sympathetic to cerebrospinal, and vice versa. So that a reflex originating in the sympathetic area, if referred to the intestinal tract, would express itself either in stimulation of the secretory apparatus or in increased peristalsis. Laxness would be the natural consequence.

On the other hand, a reflex originating in exposure or irritation of a nerve-fiber in the anal canal would manifest itself either in pathologic sensation, *i. e.*, pain, or in stimulation of a voluntary muscle. The latter is the point to which I would call special at-

tention. Any lesion of the terminal portion of the bowel, such, for instance, as a fissure or inflamed hemorrhoids, supplies the occasion of the reflex and the external sphincter is generally the muscle upon which it expends itself. The effect, if long continued, is irritability and hypertrophy of that muscle. When this occurs a mechanical impediment to defecation has been established and a condition of costiveness eventually merging into true constipation ensues.

Another cause for this condition of the sphincter and one more frequently in evidence, is neglect. When in response to peristalsis the fecal matter leaves the sigmoid and descends into the rectum a certain amount of irritation is excited by its presence and desire to go to stool is felt. The only barriers to immediate passage are the sphincter muscles by means of which Nature and the will operate to the welfare of the individual and in the interest of society. If the inclination is resisted, the feces are returned to their normal receptacle in the sigmoid flexure and the desire passes off not to return, most probably, for twenty-four hours. But as the accumulation increases from day to day reverse peristalsis does its work less perfectly and a portion of the feces remains in the rectum, where it becomes dry and hard from the absorption of its liquid contents and, impinging upon the delicate and sensitive mucosa covering the sphincters, excites these muscles to a state of chronic reflex contraction. In this way, just as from pain ful lesions of the anus, a condition of irritability and hypertrophy is produced. This is a cause of constipation which I am persuaded is not duly appreciated. Neglect, costiveness, hypertrophied sphincter, constipation is a sequence of events which obtains, doubtless, in many cases. And intelligent working comprehension of the subject requires that the process be recognized and each factor taken into account.

Before leaving the reflexes, as pertinent to the subject, I mention without comment the unique and rather remarkable experience of a prominent Nashville physician who has reported a number of cases of chronic constipation due to eye-strain and relieved by properly adjusted lenses.

The symptoms and diagnosis of constipation need no discussion before this body. One point, however, will bear mention for the sake of the emphasis it merits. Causes outside the rectum may beyond question be productive of the disease. But the effects of the disease itself are often such as to cloud its etiology by simulating other affections. Thus, auto-infection is probably in many cases responsible for the hepatic derangement, debility, defective innervation, etc., to which the constipation is credited. Therefore, the position cannot be considered an extreme one that this class of cases should without exception be subjected to thorough rectal examination.

The treatment of constipation might well afford the theme for a separate essay. Here I cannot hope to do more than indicate principles. Considering first the general subject, the essentials may be very concisely stated: If the diet is at fault, correct it. If the habits of life are improper, let them be modified. When these fundamentals have received attention medication may be thought of. Purgatives naturally suggest themselves first in this connection. Their proper field of application is a very limited one. It may be tersely stated: In the beginning to relieve the costive condition; afterward only when necessary for the same purpose. It is always to be borne in mind that purgatives as a class have proper reference only to the symptom, costiveness.

When the cause can be traced to defective innervation two principal indications are to be met in the treatment: First, reestablishment of the intestinal secretions; second, restoration of the muscular tone. For these purposes a great variety of therapeutic agents are at command. Wisely selected medicines are useful but not to be exclusively relied upon. In conjunction with them the various nonmedicinal agencies, such as methodical exercise, massage, and electricity are to be borne in mind and employed as indicated. Of course the general health will be looked after by the astute physician and any dyscrasia or cachexia receive due attention.

In the treatment of constipation resulting from rectal diseases, we have as the first indication, removal of the cause. But I wish especially to emphasize that this will not often be effective unless at the same time dilatation of the sphincters is practised. In no other way can the irritability and hypertrophy nearly always present be overcome. And, if this condition is not overcome, no line of treatment, however scientific and however faithfully applied, is likely to prove of more than temporary benefit. Fortunately, in the modern treatment of most rectal lesions dilatation, incidental or by design, is a routine preliminary; and to this fact unquestionably the great and lasting relief of the constipation which all of us have observed following operations, is in large measure attributable.

In conclusion, I wish to state my conviction that in a proportion of cases so large that I shall not venture to name it, constipation either originates in or is maintained by causes located in the distal ten inches of the intestinal tract. If I am correct in this, the notorious inadequacy of ordinary treatment is at once accounted for, and the duty of the proctologist in the premises becomes obvious.

ASTHENOPIC SYMPTOMS AND HEADACHE CAUSED BY THE MORE COMMON FORMS OF INTRANASAL DISEASE.[1]

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HEADACHE, from whatever cause it may arise, is one of the most frequent complaints with which the physician has to deal. It would certainly seem that more people suffer from this disease than formerly, or that they are less willing to bear the pain. The amount of headache medicine sold by druggists is something enormous, and the number of pairs of glasses worn to relieve headache is past finding out. Still the number of patients who suffer from this pain is steadily on the increase, and one patient relieved by any procedure brings many others, some of whom are relieved while others are not. Of the many causes which may produce the pain we have been inclined to think refractive errors the chief. This belief has arisen in part because our attention has been so often called to the part that such errors play in the production of headache, and in part by the brilliant cures that have been accomplished by the wearing of glasses. We have come almost to believe that all headaches as well as most other nervous diseases are caused by errors of refraction or muscular unbalance. The brilliant results I do not deny and I have had some as miraculous as any, but I do believe that the patients who can be relieved of pain or other obscure nervous symptoms by the glasses that are often prescribed need to have their nervous system reconstructed from the foundation. That we often overlook other causes in our zeal to find some ocular error which might produce the pain no one will deny, and I wish to call your attention to a few cases in which intranasal disease so closely simulated eye disease as to be very misleading. These cases illustrate the effect of the more common forms of intranasal diseases exclusive of diseases of the accessory sinuses.

CASE I.—Mrs. D., aged thirty-five years, consulted me in May, 1894. Her family history was good and the patient was well nourished and looked to be in good health. She complained of pain in the eyes and across the forehead, worse after using the eyes for near work. She was firmly convinced that the headache was due to the eyes. Tests showed vision in each eye to be normal. Muscular tests showed 6° manifest exophoria. She also had chronic hypertrophic rhinitis. The lower turbinates were considerably enlarged, but did not touch the septum.

She was anxious to have glasses as she was about to make her annual visit to her old home and she always suffered greatly during the railway journey of 500 miles. One statement that she made at her first visit was rather puzzling at the time, namely, that she suffered very much in making the journey out, but that on her return, six or eight weeks later, she was nearly free from discomfort. I satisfied both myself and my patient by supposing that the prolonged rest which she had enjoyed in the country had caused the change for the better. Prisms of 2° before each eye were ordered and on her return she reported that the glasses gave great relief during the first two or three weeks, but that latterly she had been unable to wear them at all. On examination the exophoria was found to have disappeared, and as she then did not need glasses she was advised to wear none.

This was in August, 1894. In November of the same year she called on me again, complaining of all the old symptoms. I then advised her to have the chronic rhinitis treated as the nasal condition was much worse than when I saw her in August. She came a few times for treatment and then ceased her visits and I did not see her again for two years. On her return in 1896 she had a long story to tell, the principal points being that she had given up the treatment of the chronic rhinitis by the advice of her family physician, who assured her that it could not be cured, and that her headaches were caused by cervical catarrh, which could be cured. I asked her if the cervical catarrh had been cured and she promptly and emphatically replied "no." She had consulted two other oculists and they had both advised partial tenotomy of the external recti. She had discovered that her eyes gave her trouble only in the fall and spring, during the period when her chronic rhinitis was worse and she was practically free from headache during the rest of the year. She is still in the same condition as she felt that she could not afford to continue treatment.

I have reported this case somewhat at length because it was so misleading not only to me but to others, and also for the light that it throws on many obscure cases of frontal headache, caused seemingly by muscular imbalance. I make it an invariable rule to examine the nose in cases of muscular insufficiency and it has proved a very satisfactory practice to me, and I have the records of many cases in which the patient has escaped the annoyance of wearing glasses by intranasal treatment.

CASE II.—A physician, aged thirty-three years. Family history good. He first came to me in 1895 suffering from hay fever. He had enlarged lower turbinates which touched the septum. He had also chronic ethmoiditis on the left side of many years' standing. He told me that he had had frontal headache during some part of every day for ten years and that he had often been confined to his room for several days at a time with excruciating pain over the eyes. To use his own expression he had taken everything that had been prescribed for him, from aconitia to Rochelle salts, and knew of nothing that

[1] Read before the Section on Laryngology of the American Medical Association at Columbus, Ohio, June 8, 1899.

had relieved him. He further added that during all this time no one had ever examined his nose.

His hay fever was easily controlled and later, during the fall, the lower turbinates were thoroughly cauterized. As soon as the burns were healed his headaches vanished and have not since returned. The ethmoiditis still continues but it is much better by reason of the better drainage.

It may be claimed that the pain in this case was due to the ethmoiditis, but it should not be forgotten that the ethmoiditis was one-sided and that the pain was as often on one side as the other, and that the pain was quickly relieved by the cauterization, while the ethmoiditis still exists after four years of improved drainage.

Another very common form of intranasal disease which causes headache is acute ethmoiditis. It is very often the case that an attack of acute rhinitis involves the anterior ethmoid cells and the inflammation remains in the cells for some time after the general attack has ceased. When these cells are involved the patient suffers from pain in and around the eye, which is often severe. The pain is so persistent and intense that the attending physician and the patient are fully persuaded that there is some serious disease of the eye. The following case is very characteristic of a large group:

Case III.—Mr. P., aged forty-three years, suffered from an attack of grip with a good deal of inflammation of the mucous membrane of the respiratory tract. During convalescence he complained of pain in the right frontal region, and around and in the right eye. I saw him in consultation and found the eye free from inflammation, pupil normal, and tension not raised. On examination of the nose the left side was found free from disease. On the right side the anterior ethmoid cells were inflamed and the mucous membrane covering the middle turbinate was red, swollen, and covered with a thin watery discharge. A spray containing cocain relieved the pain and swelling, and under measures directed to the relief of the ethmoiditis he made a good recovery.

This case is reported simply as a type of a very common affection. Often the diagnosis is far from easy, but an inspection of the nasal cavities under good illumination cannot fail to be an aid in clearing up the nature of the case.

Many patients have headache from a form of chronic rhinitis in which the discharge is not abundant, but rather viscid with a tendency to dry on the surface of the mucous membrane. The nasal breathing is not much obstructed except by the crusts, but the patients complain of a dull feeling of distress and discomfort across the bridge of the nose, extending upward across the brows, and at times giving rise to decided pain in the eyes. This condition of the nasal mucous membrane is distinctly different from atrophic rhinitis, but it is rather closely associated with uricacidemia and is often made worse by high living. I have seen many cases in which overindulgence in rich food made the nasal obstruction much worse in a few hours, and this result was so sure to follow any excess that the patients expected it. Measures directed to the systemic condition and regulation of the diet help these patients, but it is often necessary to treat the nasal disease by local applications.

Another form of intranasal disease that causes almost daily headache is hypertrophy of the posterior third of the middle turbinate. It is not at all a rare condition. The middle turbinate may touch the septum or approach it so closely that the narrow orifice is easily occluded by the congestion of the mucous membrane that follows any slight irritation. The headache from this condition is persistent and often severe and is only relieved by the removal of enough of the bony framework of the middle turbinate to provide a good space between that body and the septum. This operation quickly, and I believe permanently, cures the pain.

In this paper I have not attempted to discuss all the intranasal diseases which may cause headache, but have briefly alluded to some which seem to me to deserve more attention than they usually receive. I have no theory to offer to explain the production of headache by intranasal disease, but prefer to report the conditions as I have found them. At some future time we may be able to give a rational explanation of the connection between intranasal disease and headache, but as yet our knowledge of the subject is too incomplete to justify us in the indulgence of theories.

In conclusion I wish to emphasize the following points: First, headache may be and often is caused by intranasal disease; second, other disease aside from atrophic rhinitis, nasopharyngitis, affections of the accessory sinuses or the obstructive intranasal conditions may be the cause of headache; third, an examination of a patient suffering from headache is not complete unless the condition of the nasal cavities has been investigated.

THE INFRAPUBIC ROUTE IN SURGERY OF THE UTERUS AND ITS ADNEXA.[1]

By WILLIAM H. WATHEN, M.D.,
of Louisville, Ky.

Four years ago when Drs. Jacobs, Henrotin, and I read papers before this society in Baltimore, upon surgery of the uterus and its adnexa per vaginam,

[1] Read at the twenty-fourth annual meeting of the American Gynecological Society, held at Philadelphia, May 23, 24, and 25, 1899.

the subject was so thoroughly discussed by the Fellows, and all questions in favor of the infra- and suprapubic methods of dealing with diseases of these structures were so carefully considered, that I then believed there would practically be unanimity of opinion as to what cases should be assigned to each of these methods. I find, however, that notwithstanding the fact that this question has since then engaged the attention of the best specialists in this country and abroad, we are but little nearer a consensus of opinion than we were before that meeting, and the arguments against the vaginal method presented and answered upon that occasion are to-day urged with the same earnestness and honesty, although the experience of many men has demonstrated that facts do not justify such objections.

It will not be claimed that there are no diseases of the uterus or the pelvic structures that cannot be successfully treated by either the supra- or the infrapubic method, but nearly every objection to the latter is the result of a lack of observation or experience. I have recently read with no little degree of surprise arguments against vaginal hysterectomy in the discussion of a paper before a medical society in Philadelphia. Were not these men representative abdominal and pelvic surgeons I would not feel inclined to refer to their objections, for I would imagine that such opinions were unusual. This discussion leaves the conviction that many surgeons have not carefully studied the technic of hysterectomy, etc., per vaginam, but reproduce the theoretical arguments against such surgery that were advanced by the great surgeons of Paris in their opposition to the late Peán when he first emphasized his success in this kind of work. If we will read the arguments of the men at that time, and then the discussions against the vaginal method offered now, we will see the striking similarity and the same evidence of the theoretical character. But I dare say that had all our American surgeons practically tested this method, as did Segond, Richelot, Pozzi, and others, they would have changed their opinions just as these men did, and would have learned that the objections they had supposed to exist are not real.

An experienced surgeon by the infrapubic route is surprised at surgeons who oppose this method because of their repeated insistence that by the abdominal route one can see the structures with which he deals, but cannot see the structures encountered by the vaginal route, for they have neither performed the operation correctly nor seen it correctly performed. Any person who has often operated by both methods will tell you that, with few exceptions, nearly every structure treated from below is brought in view before the knife or the scissors is applied; and even in enucleation of pus tubes and ovaries, if we first bisect the uterus the eye can guide the finger as well as by any other method, and the finger can explore to the pelvic brim with its trained sense of touch. Nor will the statement that we must necessarily wound the intestines in infrapubic operations more frequently than in suprapubic operations bear the test of intelligent experience.

I have performed vaginal hysterectomy since 1888, and during the last few years have treated every diseased condition of the pelvis by this method, when indicated, if the consent of the patient could be obtained. During these eleven years I have never wounded the bowel or ureter; but I have wounded the bowel several times in performing abdominal section. I claim no special excellence of technic in avoiding injury to these structures, but contend that every well-trained surgeon can obtain the same degree of perfection in results if he will persist in his efforts.

One thing that may have prevented the more general adoption of the vaginal method, and may have caused people to oppose it, is the belief that the technic is so complicated that it is difficult to do the work without committing the sins above mentioned. I can understand why this belief exists to a greater extent than otherwise, in that too many surgeons use an unnecessary multiplicity of instruments, and especially of retractors, because these appliances, with few exceptions, are of no practical use and often complicate the operation.

In my early hysterectomy operations I was prone to adopt the methods of my predecessors without considering whether there might probably be an improved technic in some details. In many cases in hysterectomy no retractor is needed, and seldom more than one, and by dispensing with them the operation may be performed more rapidly, more successfully, and with less danger of wounding adjacent organs, for the *fingers* are the best retractors that can be used. By this method, if we bisect the uterus there is usually no difficulty in seeing the tissues before the knife or the scissors is applied; but if we cannot the finger may be carried in advance of the cutting instruments, in contact with the uterus or diseased tissues, thereby preventing wounding the bladder, the intestines or the ureters. I have for several years observed this technic, and the more experience I have the more I feel justified in insisting upon its superiority. Every part of the vaginal wall and the cervix may often be exposed by the fingers and seen as plainly as tissues outside the body.

I can readily see that there may be an objection to vaginal hysterectomy in some instances, and also to dispensing with retractors, if the uterus is not bisected; and just here is an excuse for the opposition urged against vaginal hysterectomy by surgeons who tell us of the dangers of wounding vital structures. It is not possible to see all the tissues involved in removing pus-tubes and applying clamps if this is done before the uterus is bisected, because these structures are then high in the pelvis and mainly hidden from view. There is no danger, however, of wounding anything but the uterus during the process of bisection; and after the organ is divided each side may be separately pulled outside the vulva, adhesions treated as they present, and the broad ligament, including the ovaries and tubes, clamped externally from above, in full view. There is no danger of wounding the intestines in separating adhesions from the uterus, for it is exceptional that the bowel is firmly adherent to this organ, and if so, by hugging the uterus closely it is easily separated without danger of structural injury; and omental adhesions are of no consequence.

While I do not believe the uterus is an important organ after the removal of the ovaries and tubes, still there are many cases in which it might be well to leave it, or in which the patient will not consent to its removal, and her convalescence may not, because of this fact, be interfered with, and she may remain well. In these cases I have had but little difficulty in removing the ovaries and tubes through a vaginal incision into Douglas' pouch, going behind the ureters and the uterine arteries. If the incision is made close to the uterus no vaginal arterial branches will be wounded and hemorrhage will be of no consequence, nor will there usually be much trouble in separating adhesions and bringing the ovaries and tubes into the vagina. They can then be removed with almost as much perfection as they can through the abdominal wound.

In this operation retractors are absolutely in the way, and no one can do perfect work of this kind who continues their use. And in this connection we may show the fallacy in the arguments against the infrapubic method offered by persons who claim it is not conservative, for it is impossible to perform more conservative surgery upon any part of the body, or by any known method, where the operation could in any sense be considered a capital operation.

There is no danger in opening Douglas' pouch after the vagina has been made aseptic, and the uterus likewise, by thorough curettage, etc.; and when the ovaries and tubes are brought into the vagina, if not diseased, they may be returned without injury, but if diseased not enough to justify removal they may be treated by any approved method, returned to their place, and the vaginal incision immediately closed. The operation performed after this fashion is of so little significance that it is not more dangerous than the operation for curetting and for lacerated cervix, and the patient, having no elevation of temperature or rapidity of pulse, is able to leave her bed at any time the surgeon will permit her to do so.

If there is doubt as to whether the ovaries and tubes are diseased sufficiently to justify the removal of one or both adnexa we should first carefully examine these organs through an opening into Douglas' pouch, and if neither should be removed, or if one should be removed only, be governed by the indications.

Nothing more could be accomplished by the suprapubic method, and by that method the abdominal wound in itself should confine the patient to bed for not less than two weeks, and require an abdominal support for one year; and in the vaginal method of exploration there is no danger of hernia or post-operative intestinal adhesions, while there is danger in the abdominal method, whether any organs are removed or adhesions separated. This is proven by observation in operations for ventral hernia following celiotomy, and we are always watchful in our incision to prevent wounding an intestine adherent to the abdominal wound.

When but one ovary and tube should be removed, let it be as a result of any kind of injury—pyosalpinx, ovarian abscess, tuberculosis, extra-uterine pregnancy, etc.—the other side may serve just as useful purpose as before the operation, and many of these women have afterward borne children without trouble. While there may be a few cases where the operation could not be completed without hysterectomy or abdominal section, I have not met with such a case, and I have not performed the suprapubic operation for extra-uterine pregnancy for nearly four years, but have performed about thirty through the vagina, each patient making an uninterrupted recovery. When one or both of the adnexa are removed per vaginam the convalescence is so universally uninterrupted that we learn to believe that every patient will make a prompt recovery. Of course it would not be the correct thing to attempt to complete an operation for extra-uterine pregnancy in intraperitoneal rupture with a large accumulation of blood in the abdominal cavity that could not be drained away; but in this condition there are times when vaginal incision into Douglas' pouch, and clamping the tube at the point of rupture, may save the life of the woman by promptly controlling hemorrhage until she can be resuscitated sufficiently to

resist the dangers of a celiotomy. In some of these cases the shock is so great that an abdominal section cannot be performed until the patient rallies, and often just as the pulse begins to become well perceptible secondary bleeding may cause death. A clamp may be applied through the vaginal incision without the administration of chloroform if the patient is not able to take an anesthetic, and removed at the time of the celiotomy.

Having first insisted at the meeting in Baltimore that in operations per vaginam, when septic matter in the pelvis is held there by an over layer of intestines agglutinated by inflammatory exudations, that these adhesions should never be disturbed if it can be avoided, and that experience has taught that they usually cause no trouble, I will not dwell specially on that point to-day. Nature is always conservative, and in protecting the abdominal cavity from the poisons in the pelvis she usually does so after a systematic fashion that may cause no trouble if the adherent intestines are not separated, and this protecting roof should not be disturbed, either in vaginal incision or in vaginal hysterectomy. No experienced celiotomist will contend that it is not dangerous to remove a large accumulation of pus, hemmed in after this fashion, through the abdominal incision, for while it may be sterile in one instance it may be virulent in another, and we never know that we can positively prevent soiling the healthy peritoneum; but if we succeed in separating the adhesions without wounding an intestine or causing local or general sepsis, it is impossible to prevent post-operative irregular adhesions more dangerous to health and life than would have been the agglutinated intestines left undisturbed in an operation per vaginam. Patients in whom there is an extensive accumulation of pus, with tissues thoroughly septic and softened, may symptomatically recover by incision and drainage without the removal of any organs, and I have seen many of these who afterward did not complain of pelvic trouble. This is applicable in accumulations of pus following abortion or labor; but in cases of local sepsis at such times the formation of pus may be prevented by prompt vaginal incision, opening the folds of the broad ligament, or separating pelvic adhesions, and lightly packing with iodoform gauze, so as to separate and keep apart the infected surfaces. If these cases could be seen at the beginning of sepsis the results would be good, but unfortunately we are not often called until the disease has made too much headway and pus has accumulated.

In both vaginal hysterectomy and vaginal incision for removal of tubes and ovaries, or for other purposes, we should apply just as little gauze as will meet the demands, being careful to cover the ends of the clamps to protect the intestines against subsequent injury. Too much gauze packing is painful, keeps the vaginoperitoneal opening too widely distended, and does not drain well. But little iodoform gauze should be used, for it has often caused intoxication, and has occasionally caused death.

To insure perfect drainage it is best to place a gum tube in the vagina with the end in the lower part of the vaginal incision and against the gauze packing. The tube should be used until after the gauze has been removed, and until the opening between the vagina and peritoneum has closed so as to *positively* resist the passage of water in vaginal irrigation. I do not believe it is best to leave the gauze packing for a week or ten days, as has been done, but I remove it gradually, beginning on the third day and taking out the last piece on the fifth or sixth day.

I have never observed that the length of the vagina has been materially altered, or that the secretion has been especially interfered with. If an appendix is sufficiently diseased to justify its removal, then the direct symptoms will enable us to make a diagnosis and guide us in the selection of the best method in operating. The relatively delayed convalescence, the abdominal incision, and the danger of hernia must be accepted in a minor degree as objections to the suprapubic route in selecting that method instead of the infrapubic route.

THE SERUM-TREATMENT AND ITS RESULTS.

By HERMANN M. BIGGS, M.D.,
OF NEW YORK.

(Concluded from page 105.)

Pneumonia.—There is no disease, excepting possibly tuberculosis, which is more fatal and in which a specific preventative and curative method of treatment is more to be desired than in pneumonia. The records of the New York City Health Department show that the deaths ascribed to pneumonia of different varieties number on the average about 5000 a year and are only exceeded by those due to the tubercular diseases.

Since 1884, when A. Fränkel first separated the pneumococcus in fresh culture, numerous bacteriologists have endeavored to produce immunity against the processes caused by this organism. In animals many methods have been employed to obtain this result with varying success.

The technic of experimentation with the pneumococcus has always offered unusual bacteriological difficulties and these have deterred many experimentors and have no doubt delayed the accomplish-

ment of the desired result, but the stimulus given by the success in obtaining antitoxic serums for tetanus and diphtheria has induced in recent years renewed efforts to obtain a curative serum for pneumonia in man.

The Klemperer brothers in 1891 reported somewhat favorable results from the treatment of six cases of pneumonia by an antipneumotoxin precipitated from the blood of immune rabbits; Jansen later reported apparently favorable results in ten cases of pneumonia treated by the injection of the serum of immune rabbits, and in 1893 Lara and Botzolo recorded what they regarded as encouraging results. In 1896 DeRenzi recorded the results obtained from the treatment of ten cases of pneumonia with antitoxic serum, and while all recovered the author felt unwilling to say they might not have recovered without the use of the serum. In 1897 Weisbacker reported five cases treated by injections of serum obtained from patients convalescent from this disease, and while the objective symptoms do not seem to have been much affected by the treatment the subjective feeling of relief is said to have been marked in all and recovery in all occurred. Washburn immunized a pony and with the serum thus obtained treated two cases successfully. He describes a method for determining the antitoxic power of the serum employed. Parre reports the results of experiments made with serum obtained from an ass, a cow, and rabbits thus immunized, in which he found the serum of the ass most efficacious. He reported twenty-two cases of pneumonia treated with this serum, with two deaths, these two patients being practically moribund when the serum was administered. In a later article he states that he is using the serum systematically, and that when given in 50 c. c. doses early in the disease, crisis and recovery invariably followed.

Ughetti of the University of Cantania and Cantieri, Director of the Medical Clinic at Sienna, express favorable opinions as to the efficacy of the serum prepared by Parre, while Massolongo of Verona concludes a careful and minutely detailed report as follows: "My impression as to the value of the antipneumococcus serum is that it is more efficacious in the treatment of pneumonia than any other agent we possess. These first experiments of mine convince me that from the DeRenzi and Parre serum we can obtain a clearly defined action on the pneumonic process, which it influences directly." Nine other clinicians have recorded similar experiences during the last year and have communicated the results to the Sero-Therapeutic Institute at Naples, where the serum is prepared.

Some experiments instituted along this line in the laboratories of the Department of Health, while still incomplete, give encouragement to hope for ultimately successful results. It is undoubtedly possible to confer upon animals (horses being employed in these experiments) a high degree of immunity to virulent cultures of the pneumococcus and the serum derived from these animals in very small amounts will protect rabbits from many times a fatal dose, when administered before the inoculation of virulent cultures of pneumococcus. The controls invariably die from the injection of $\frac{1}{1000}$ part of the dose administered to the protected rabbits. A larger quantity of the serum is required to protect animals when the culture is administered at the same time or previous to the administration of the serum, but even then, if the administration of the serum is not delayed for too long a period, the rabbits still live.

The conditions obtaining in such experiments are quite unlike those ordinarily existing in pneumonia in the human being, as pneumococcus septicemia is ultimately produced by the inoculations and this does not occur, as a rule, in lobar pneumonia in human beings except in severe cases and late in the disease. The animals, in these experiments, which showed a general septicemia at the time of the administration of the serum invariably died, but lived longer than the controls. Those animals which did not show a general septicemia at the time of the serum injection have in part lived and in part died. Successive doses also seem sometimes to save animals which would otherwise have perished.

The practical results obtained in the treatment of pneumonia in the human being with this serum are indecisive. The experimental results, however, are striking and justify a hope that better results may be later obtained with improved methods, and a serum of higher grade.

It is undoubtedly important in this disease as in the other infectious diseases in which the serum treatment has been successfully employed, that the remedy should be administered at an early stage of the disease.

It seems quite within the range of possibility that the next great achievement of serum therapeutics will be in the production of an efficient antipneumococcus serum, and if this should be obtained all of the previous successes in this department of medicine would in practical importance be far surpassed.

Epidemic Cholera.—Encouraging results have been obtained in both the preventative and curative treatment of epidemic cholera. Extensive investigations were carried on by Haffkine under the supervision of the English Government in India, in regard to the use of preventive inoculations for cholera. More than 100,000 persons are reported to

have been subjected to these inoculations, the material used in them being the dead cultures of the cholera bacillus. The inoculations in themselves are harmless although they are followed by some local and general reaction, which is, however, of short duration. To confer complete immunity Haffkine's method requires two inoculations with an interval of about eight days between them.

The following may be considered as indicating fairly the general results obtained from these inoculations:

The managers of certain tea estates, among the coolies of which the inoculations were carried on, reported that out of 29,000 employed on the estates, 7507 had been subjected to the inoculations; among these 63 cases of cholera afterward occurred, with 28 deaths—the admissions thus being 8.39, and the death-rate 3.73 per 1000. Among 21,443 coolies not inoculated, in the same gardens, there were 260 admissions, with 150 deaths from cholera, showing an admission-rate of 12.13, and a death-rate of 7 per 1000, or about twice the rate among the inoculated. The majority of those inoculated were only subjected to one inoculation with the weaker virus, which according to Haffkine, gives only partial results. In a small set of experiments carried on by Surgeon Hare after Haffkine's departure, 196 out of 355 coolies on one estate were inoculated; 4 of the inoculated coolies were seized with cholera and died Among those not inoculated there were 34 cases and 30 deaths during the same period. These figures give admission- and death-rate among the inoculated coolies as 20.4 per 1000, while among the non-inoculated coolies the admission-rate was 213.8, and the death-rate 188.7 per 1000. It is also reported that in a later series even better results were obtained.

As to the curative value of the anticholera serum we may refer to the experiments of Kitisato, which show that in the Hirdo Cholera Hospital the mortality from cholera was apparently reduced by 20 per cent. by the use of the serum, and that in early cases—that is, those treated within the first twelve hours of the disease, the mortality was reduced to about 14 per cent. instead of the average 70 per cent. among those treated in some other manner. Experimentally it has been shown that the serum protects guinea-pigs from the results of the inoculation of many times the fatal dose of a cholera culture, when injected simultaneously into the peritoneal cavity. When injected subcutaneously, somewhat larger quantities of serum were required to confer protection; but this was still obtained if the curative injection was not made too long after the infection.

Koch said to the writer two years ago, with relation to the protective inoculations against cholera, that he had no doubt that in any future outbreaks of cholera in Europe or in America the disease would be promptly controlled through the use of immunizing injections, and that a maritime quarantine against this disease would be no longer required, as persons exposed on shipboard would be immunized and thus protected.

Bubonic Plague.—Still more encouraging results have been obtained in the preventative and curative treatment of the bubonic plague. The method adopted in testing the treatment consisted in the selection of a group of persons living under similar conditions, inoculating a portion of this group and leaving the remainder uninoculated, and then noting the incidence of the disease in the two groups.

At Kirkee, where plague broke out among the artillery, an excellent opportunity with these conditions presented itself, and the results were as follows: Among 875 non-inoculated men there were 133 cases of plague with 102 deaths, while among 667 inoculated, there were 32 cases with 18 deaths. The figures are strikingly in favor of the inoculated, for if the inoculated had had proportionately the same number of deaths as the non inoculated, they would have had 89 deaths instead of 18, a difference of 71 deaths, a reduction of nearly 80 per cent. In Damann the results were equally good. In this small town Haffkine inoculated altogether 2297 persons. Of 6933 persons in the town who were not inoculated 1482 died, *viz.*, 24.6 per cent., while of the 2297 inoculated, only 36 died, or 1.6 per cent., instead of 332, which would have been the number had the deaths been in the same proportion as among the non-inoculated. In this series there was a reduction of 89.2 per cent. To meet objectors Haffkine and Lyons point out that with such results and so high a proportion of the inoculated to the rest of the inhabitants (2297 to 6933) it is impossible that the inoculated represented the upper or any particular class of the population to which their reduced death-rate could be ascribed. A notable example is given in theParsee Community which consisted of 306 persons, of whom 277 were inoculated, leaving only 29 uninoculated. In the 29 uninoculated there were 4 deaths from plague, or a mortality of 13.8 per cent., while among the 277 inoculated there were 8 attacks with only 1 death, which occurred in a woman ill of plague before the inoculation. Counting this death the mortality in the inoculated was 0.36 per cent. or 38.3 times lower than in the uninoculated. Again,in Lanowli, where inoculations were carried out in two infected and isolated centers, 422 non-inoculated had 68 cases and 48 deaths, and 293 inoculated had 5 deaths. If the deaths among the

inoculated had been proportionately as high as among the non-inoculated there would have been 33 deaths instead of 5, a difference of 28 deaths, or 84 per cent.

The observations in Bombay and Mora are less instructive, because they are not comparative; still they are interesting, and confirmatory of the favorable influence of the inoculations. In Bombay 8142 persons were inoculated, and among this number 18 were attacked with plague, 16 of whom recovered and 2 died. The 2 fatal cases were ill with plague at the time of inoculation. In Mora Kolaba, a small place in which plague appeared, 419 of the inhabitants were inoculated; 4 of these were attacked, but all recovered. A careful analysis of the results of the inoculation seems to show that the efficacy of the prophylactic depends on the virulence of the bacillus from which the lymph is prepared, and on the dose and its power of producing a well-marked febrile reaction, and that it is more effective in preventing deaths than attacks.

Typhoid Fever.—Wright and Semple have employed Haffkine's method of vaccination against cholera in the prophylaxis of typhoid fever. The vaccines are made from agar cultures of typhoid bacilli which have been grown for twenty-four hours in the incubator. Cultures thus obtained are emulsified by the addition of measured quantities of sterile broth. The resulting emulsion is then drawn up into a series of sterile and calibrated glass pipettes, the capillary ends of which are sealed in the flame so as to form vaccine capsules. The capsules are then placed in a beaker of cold water which is brought to a temperature of 60° C. and kept at that temperature for five minutes. The vaccines are inoculated into the flank. The strength of a typhoid vaccine will obviously be determined (1) by the number of bacilli which it contains, (2) by the virulence of these bacilli. In their later experiments they employed a typhoid culture of such strength that one fourth tube of twenty-four hour culture constituted a lethal dose for a guinea-pig of 350 to 400 grams when hypodermically injected. The quantities of this culture used for antityphoid vaccinations varied from one twenty-fifth to one-fourth of a tube. The latter quantity (*i.e.*, the quantity which, if injected *alive*, would have proved fatal to a 350 gram guinea-pig) constitutes a somewhat severe dose for a man.

Clinical Symptoms.—When the smaller doses (one-twenty-fifth to one-sixth of a tube) are used the symptoms are comparatively slight. The local symptoms consist in a little tenderness; the constitutional symptoms in a subjective feeling of chilliness, which comes on about two or three hours after the inoculation of the vaccine; further, in a very slight rise of temperature and a little restlessness at night. The symptoms have quite passed off in twenty-four hours. With larger doses the symptoms are all more severe. There is considerable local tenderness and inflammation, which disappear after forty-eight hours. The constitutional symptoms, consisting in some degree of faintness and collapse, begin to manifest themselves generally in two to three hours. In 4 out of 11 cases inoculated with the larger doses faintness and nausea (resulting in 1 case in vomiting) were already well marked after three hours. In the other 7 cases these symptoms supervened later. Only 3 out of the 11 cases were able to put in an appearance at dinner. A good deal of fever was developed in all cases, and sleep was disturbed. By the next day 8 out of the 11 persons treated returned to their normal condition of health; 3 of the 11 looked somewhat shaken in health for some weeks after. Calcium chlorid (45 to 60 grains) was administered with a view to prevent a decrease of blood-coagulability. Examined by the Widal-test the results showed in the most evident manner that the blood of patients who have submitted themselves to an antityphoid inoculation becomes in some measure poisonous to the typhoid bacillus by giving the reaction of immobilization and agglutinization, and it may be inferred that these persons are immunized against typhoid fever. This conclusion, however, cannot be regarded as assured until we are in a position satisfactorily to account for the fact that typhoid-fever patients and Malta-fever monkeys who succumb to these diseases show the specific sedimentation reaction in exactly the same way as the typhoid-fever patients and Malta-fever monkeys who recover from these diseases. (Wright and Semple.)

With regard to the danger associated with antityphoid vaccinations, Wright and Semple say: "When we appreciate that the bacteria which are employed in these vaccinations are *dead* bacteria, and that they are incapable of generating new poison in the system, it will be obvious that the injection of small and measured quantities of these dead bacterial cultivations involves no more risk to life or health than the injection of a medicinal one of morphin. That there is no unknown factor of risk in the case of the injection of bacterial toxins will be evident when we consider that Haffkine has performed nearly 100,000 anticholera inoculations without a death, and as far as we can learn without the supervention of a single serious symptom.

"Although there are no facts as yet upon which to base definite conclusions, it is legitimate to judge, from the extremely slow disappearance of the per-

fectly comparable 'sedimentation' power, which is acquired by undergoing an attack of typhoid, there is every reason to hope that the immunity which is conferred by these vaccines may persist for a considerable number of years. If it does so it will obviously suffice to carry a young adult over the period of his extreme susceptibility."

As to the sphere of application of the prepared antityphoid vaccinations, they suggest, since these vaccinations are unattended with risk, that it would be expedient for every one who is likely to be frequently exposed to the risk of typhoid infection to undergo the vaccination. In particular this would appear to be expedient in the case of young soldiers going to typhoid-infected districts, to nurses in attendance upon typhoid patients, and to persons who are living in any district which is being visited by an epidemic of typhoid.

Semple later reports as regards the value of these prophylactic inoculations, that out of 84 persons vaccinated against typhoid during an epidemic, not one contracted the disease, while of 120 not vaccinated, under the same conditions 16 were attacked by it.

Sanarelli's Anti-amarylic Serum for the Treatment of Yellow Fever.—It is claimed that this serum is germicidal to the microbe causing yellow fever, while it is impotent against the poisoning produced by this organism. Successful results, it is said, can only be obtained by the injection of the anti-amarylic serum very early in the course of the disease (before the microbe has become firmly lodged and has produced diffuse poisoning), then the yellow-fever bacillus is destroyed, and the disease is cut short.

Sanarelli says that good results are difficult to obtain if the treatment be applied when the disease is already advanced after the amarylic poison has largely accumulated in the organism and has already induced grave anatomical and functional changes which the serum is powerless to counteract, and which of themselves suffice to cause death. The application of the serum, therefore, must be confined to the first period of the malady.

"The serum, itself, is in no respect harmful and can be administered in the desired quantity up to the moment when all hope of success is not yet definitely abandoned. The beginning dose is 20 c.c., and if this is followed by no appreciable improvement, a second, third, or further doses may be administered according to the patient's general condition. Injections may be made subcutaneously in the thigh or nates, but in urgent cases it is preferable to introduce the serum directly into a vein of the forearm."

Wasdin, who employed it in several cases in Louisiana says that in one case there was a very prompt reaction, evidenced by the rise of temperature and pulse, and the great redness of the face and skin of the body. This was followed by a cessation of all pain in a few hours and a fall of temperature and pulse to a point lower than before administration. The second and third injection showed less marked reaction. The exhibition of the serum produced free secretion of a non-albuminous urine, some ptyalism, and free perspiration, but Wasdin thinks the patient would have done equally well with other medication. The second case he thinks would have undoubtedly done as well without any medication.

"The influence of the serum upon the vasoconstrictors was very pronounced, causing mental and physical suffering. At first the urine was free and always non-albuminous, but on the second day became diminished although the skin acted freely. A rash was produced, partly urticarial and partly erythematous. The reaction in this second case was excessive, the temperature rising to 104°. The doses administered were 10 c. c. each; the full dose advised was 20 c. c." Wasdin felt satisfied that the larger dose would have caused much alarm and probably harm.

Cases seen in this epidemic were so mild that he did not feel justified in injecting a greater number of persons and subjecting them to the risks attendant upon the use of a remedy with the results of which he was unacquainted.

Streptococcus Infections.—Infections due to the streptococcus have long been the subject of experimental investigations and many bacteriologists have endeavored to produce a curative serum for their treatment. The difficulties in the way of success are numerous and have thus far been only to a limited extent overcome.

It has been shown by many experimentors that it is possible to immunize animals by the inoculation of rapidly increasing doses of living and virulent streptococcus cultures, so that their serum finally possesses the power to protect rabbits under special conditions against infection from many times the fatal dose of the special streptococcus used for the inoculations. The protective power of this serum is specific. It does not exist in normal serum or in the serum of animals immunized against any other organism. Unfortunately, however, this serum more rapidly loses this characteristic power than tetanus or diphtheria antitoxic serum, and often is practically inoperative six weeks after its withdrawal. It has been further shown that this serum does not necessarily confer immunity to any other streptococcus than the special one which has been employed in the original inoculations. It may be almost powerless

against some pathogenic streptococci, while it is strongly protective against others. Like other antitoxic serums it produces its most marked effects when introduced before the inoculation of the streptococcus cultures. If introduced at the same time as the culture it is more active when injected in the same area with the cultures than when introduced on the opposite side of the body of the animal. A series of experimental investigations on the production of this serum has been carried on in the laboratories of the Department of Health for more than three years, and the conclusions which have been reached by other experimentors have been fully verified.

The results obtained from the practical use of antistreptococcus serum in septic infections in the human being have been of the most conflicting nature. Some observers have reported excellent results in a number of cases, while many others have found the serum almost valueless. The practical results are fully in accord with the conclusions deduced from the experimental investigations. Undoubtedly in some instances the serum has proved of value when used in the human being. These were cases in which the serum employed did exercise a protective influence against the special organism producing the infection, and in which the infection was probably not of a very intense nature and a general streptococcus septicemia did not exist.

In the majority of instances in which it has been used clinically it probably has not been of any value. This result should be expected for a number of reasons. In the first place many of the preparations of serum had undoubtedly lost such power as they may have originally possessed before they were used for the treatment of human beings; second, the protective power originally was not sufficient in the doses in which it was employed to have been of much value even if introduced when fresh; third, there is little evidence to show that this serum is of much value when a severe general septicemic condition exists; fourth, in many instances the infection has been due to some pathogenic streptococcus different from that employed in the inoculation of animals from which the serum was obtained and against which the serum would have no power; fifth, many of the cases in which it has been employed were not cases of streptococcus infection at all, but were infections due to entirely different organisms, as the staphylococcus, colon bacillus, pneumococcus, etc.

It may, therefore, be assumed, from what has been said, that at present the practical value of this serum is limited. This feeling has been so strong in the Department of Health that it has never been considered wise to issue it for general use, and while it can be obtained by public institutions or private physicians in this city on application for the treatment of cases of septic infection on condition that the results obtained are reported to the Department of Health, yet its use has never been recommended or encouraged because it was felt that the experimental results did not justify such action. It should be added, further, that these conclusions do not apply solely to the preparation produced in the laboratories of the Department of Health, but to all preparations which have thus far been tried experimentally. The experience of the writer in the use of this serum, and the reports which have been received from those who have employed the serum entirely confirm these conclusions. It does not follow, however, that we may not ultimately obtain a preparation which will have definite practical value.

It should be said in passing that a large proportion of the cases of infection supposed to be due to the streptococcus are on bacteriological examination shown to be due to other organisms. In five of the last six cases treated with the serum produced in the laboratories of the Department of Health bacteriological examinations were made, and in three the infection was found to be due to other germs.

I have not taken up the consideration of several diseases of animals in which remarkable results have been obtained, especially in the preventive treatment, *i.e.*, rabies, tetanus, anthrax, and rinderpest, because of the lack of time, and nothing of special importance has been recently added to our knowledge of the three first, while the work on rinderpest, although apparently successful, is still in the experimental stage.

It may be useful to consider just for a moment, finally, what has been thus far accomplished in the preventive and curative treatment of various infectious diseases by the use of substances of bacterial origin.

Leprosy and tuberculosis may be, in my opinion, entirely thrown out of consideration. There is no satisfactory evidence as yet adduced to show that in either of these diseases anything has been accomplished either in the prevention or cure. In three diseases in the human being, rabies, tetanus, and diphtheria, and anthrax and probably rinderpest in animals, we have perfectly efficient means for conferring immunity which are practically available. It further seems probable that immunity may be also conferred to snake venom. There is also very strong evidence of the practical value of the protective inoculations against cholera and plague. All the work with reference to typhoid fever, streptococcus infec-

tions, and pneumonia must be considered as only in the experimental stage.

When the curative treatment is considered, in only one disease can it be said that serum-therapy has afforded us a perfectly satisfactory method of treatment, that is in diphtheria. In all of the others all of the practical problems remain as yet unsolved, but in some there is a reasonable prospect of an early solution.

MEDICAL PROGRESS.

Subcutaneous Rupture of a Hydrocele.—MACKENZIE (*Brit. Med. Jour.*, May 27, 1899) reports an instance of a rather rare accident, the rupture subcutaneously of a recurrent hydrocele. It was associated with a scrotal hernia, for which a truss was worn. The patient, a plasterer, aged 48 years, was reaching below his scaffold, and as the truss pressed upon the top of the hydrocele, he felt something burst. There was no great pain. There was swelling of the penis, but this disappeared the following day under a cold application and rest in bed. The fluid reaccumulated, but not so rapidly as it did after tapping.

Protrusion of the Intestines in a New-born Babe.—BELL (*Lancet*, June 3, 1899) was called upon to treat a Chinese baby in whom two feet of the intestines protruded from a rent in the much dilated and thinned base of the umbilical cord. The intestine was washed and returned to the abdominal cavity, and the cord was ligated, and cut off. This ligature slipped in a few hours, and the intestines again escaped. They were returned a second time and the rent was sutured. There was no peritonitis, and the wound healed firmly, although cicatrization was not complete until the twenty-first day.

Dilatation of the Anus for Vesical Pain.—GUEPIN (*Rev. de Therap. Medico-Chirurg.*, June 1, 1899) states that anal dilatation is a palliative measure which ought not to be omitted from the treatment of incurable, painful, and spasmodic affections of the ureters and bladder. It is also a proper preliminary measure in certain major operations on the urinary tract.

THERAPEUTIC NOTES.

Muscular Development as a Radical Cure of Hernia.—WARDEN (*Lancet*, June 10, 1899) says that many cases of hernia can be permanently cured by the systematic development of the abdominal muscles. An examination of the external rings of an athlete will show one how firm and small they are, and how much less is the cough impulse, than that felt in an ordinarily muscular person. The advice that is often given to a patient whose hernia is treated by a truss, is to avoid muscular exertion. Following these directions his abdominal walls become flabby, whereas if he takes more exercise than before they will be growing stronger. Warden has seen a great change in the ring, after three- or six-months' regular exercise. He proposes three forms of exercise as especially adopted to such cases: (1) In dorsal decubitus, with the hands at the sides, the patient is to raise his body from a lying to a sitting posture. (2) In dorsal decubitus, let him raise both legs from a horizontal to a vertical position. (3) Let exercise No. 1 be performed in such a manner that the body sweeps toward one side before coming to an upright position, describing a curve and bringing into play the obliques. Each of these movements should be performed twenty or thirty times, or until a distinct sense of weariness is produced.

Clinical Report on Heroin.—BEKETTOV (*Wratsch*, No. 19, 1899) has given to twenty-five patients the product of morphin and acetic acid, called heroin. The dose used was $\frac{1}{12\frac{1}{5}}$-grain, in the form of a powder. He found that it lessened cough, so that patients were able to sleep, who before had been kept awake by constant coughing. If there was an increased respiration from cough or painful pleurisy, under the influence of heroin the respirations became slower and deeper. If, however, dyspnea was due to some cardiac condition, or to diminished pulmonary surface, as when cavities were present, it was not affected by the heroin. The drug had no effect on the circulatory or digestive systems. It produced sleep if the cause of insomnia was pulmonary. In wakefulness due to nervous conditions it was not so satisfactory. In hemoptysis it seemed the ideal remedy, preventing cough which is so disastrous under such circumstances. Some patients became accustomed to the drug, so that the dose had to be increased slightly; in others the same dose produced the same therapeutic effect although the administration was continued for weeks. In no instance was more than $\frac{1}{3}$-grain given during the twenty-four hours, nor a larger single dose than $\frac{1}{60}$-grain.

Chloral in Typhoid Fever.—DUMONT (*Rev. de Therap. Medico-Chir.*, May 15, 1899) describes the effect of the administration of chloral, sometimes associated with morphin for persistent insomnia occurring in typhoid fever. This method of treatment has been carried out in Lancereaux' wards with good results. Not only did sleep follow, but restlessness, delirium, and nervous exhaustion were thereby prevented. As a natural consequence, the general condition of the patient was improved, and the duration of the fever, as well as that of convalescence was materially shortened.

Resection of the Sympathetic for Epilepsy.—AMAT (*Bull. Gen. de Ther.*, May 15, 1899) reviews the records of the cases of epilepsy which have been treated by resection of the cervical sympathetic, and shows that this operation is most unsatisfactory. While some apparent cures have been reported, in other instances the operation has resulted in an immediate increase in the number of epileptic seizures, and in some patients trophic disturbances have manifested themselves at a considerable time afterward. Hence the wise physician will keep to his treatment by bromid, which if it rarely cures, often benefits to a considerable degree, and never does serious injury.

Treatment of Hematuria in Malaria. — WHITEHALL (*New Orleans Med. and Surg. Jour.*, June, 1899) dis-

putes the idea that quinin is not a good remedy in the treatment of hematuria occurring in malaria. He cites three cases in which he treated patients suffering from a severe form of malarial hematuria with large doses of quinin (60 to 80 grains in twelve hours) with prompt recovery. There was no doubt that the hematuria in these cases was of malarial origin, and as the quinin was not given until after the blood appeared, it could not have been caused by the medicine, as has sometimes been claimed.

New Method of Closing the Peritoneal Cavity.—O'Hara (*Brit. Med. Jour.*, June 10, 1899) treats the peritoneal opening in the following manner: The incision through the peritoneum is never made more than four or five inches in length. If additional room is required the opening is stretched. As the membrane is very elastic it readily lends itself to this procedure. When the operation is over, a purse-string suture of kangaroo tendon is passed completely around the opening in the peritoneum, beginning at the middle of the incision. When this is drawn up and tied the peritoneal cavity is perfectly closed against leakage from without, and there is no raw surface within to form adhesions to intestinal coils, etc. The suture is easily applied, and the peritoneum is in a far better condition to withstand any post-operative vomiting then after the ordinary suture. The remaining layers of the abdominal wall are closed by interrupted sutures. O'Hara has never seen any bad results follow this method of closure.

Arsenic in Chorea.—As the pathogeny of chorea is very complex, the therapeutic indications are correspondingly variable. Féré ("Twentieth Century Practice", vol. x.). There is as yet no specific treatment. Among the factors entering into the production of chorea we must consider a nervous temperament, infection, shock, general debility, disturbed sleep, etc. When the chorea is associated with debility marked by anemia, general treatment is the best antispasmodic. Here arsenic has had and still enjoys a well-merited reputation, especially for chlorotic and lymphatic patients. It should be given in large doses, such doses being less dangerous than small ones, long continued. Arsenious acid, gr. $\frac{1}{30}$, increased by gr. $\frac{1}{30}$ daily for children from eight to ten may be given, or Fowler's solution, from 5 to 8 drops a day for children and from 10 to 20 drops a day for adults, and gradually increased. Toleration will be facilitated by diluting the solution with a tumblerful of either alkaline or acid carbonated water, which may be taken in two or three portions during the hour following meals, or if Fowler's solution is very badly borne by the stomach it may be administered hypodermically in cherry-laurel water (to diminish the pain of the injection). The amount of the first injection should be $\frac{1}{50}$ c.cm. ($\frac{1}{3}$ m.), and this is increased by an equal quantity every day. Or arseniate of sodium may be used in rapidly increasing doses, gr. $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{10}$ daily for slight cases in children. In severe cases one may begin with gr. $\frac{1}{12}$ daily and increase the quantity by $\frac{1}{12}$ gr. every day until gr. ss. is reached. After continuing its maximum for three days the quantity is again diminished by $\frac{1}{12}$ gr. each day. Should treatment by the use of arsenic fail after twenty days it should be discontinued; otherwise it may be kept up several days after the cessation of the movements. One must guard against arsenic poisoning. With this drug iron, cinchona, cod-liver oil, phosphate of lime, etc., may also be employed. Féré has not used antispasmodics (bromids, etc.) extensively in chorea, for the reason that he prefers to treat the general condition rather than the spasms.

Treatment of Incontinence of Urine in Children.—(Thomson, "Clinical Examination and Treatment of Children.") Much more benefit can be gained from the use of sedatives than either stimulating or tonic remedies. Of course, any physical cause, as phimosis, should be removed, and the child should not be allowed to drink anything after five or six o'clock in the afternoon. He should be awakened at eleven or twelve o'clock, and made to empty his bladder. Scolding or punishing the child is of no avail, and should not be done. Belladonna is the most valuable remedy, and should be given in large doses, so that the pupils should be moderately dilated and the throat be somewhat dry at bedtime. Twenty or 30 drops of the tincture may be given to a child four or five years of age at bedtime, and to an older child, from six to ten years of age, 30 drops may be given in the afternoon, and the dose repeated at night. If necessary this dose may be gradually increased up to a dram. If this should fail to prevent the wetting of the bed, the fluid extract of ergot, 20 drops three times a day, often gives good results. Tincture of nux vomica often is efficacious, especially when used in connection with belladonna.

Treatment of Simple Conjunctivitis.—Ohlemann ("Ocular Therapeutics") in acute cases advises the use of cold compresses and the following lotion:

℞	Zinci sulphat.	gr. $\frac{2}{5}$
	Aquæ dest.	ʒ iv.

Or

℞	Plumbi acetat. neutralis.	gr. $\frac{1}{5}$
	Aquæ dest.	ʒ iiss.

In chronic cases, in which the epithelium of the cornea is intact, 6 to 10 drops of a 15-per-cent. solution of lead-water in a wineglassful of boiled water should be applied on compresses to the eye two or three times a day for fifteen minutes at a time. The following ointment is very efficacious:

℞	Hydrargyri oxidi flav.	gr. iii
	Vaselini.	ʒ iiss.

When additional redness of the edges of the lids is present washes are sometimes not well borne. In such cases the following ointment should be used at night:

℞	Hydrargyri precip. alb.	gr. iii–ivss
	Zinci oxidi alb.	gr. ivss–viiss
	Aceti plumbi	gtt. iv–vi
	Vaselini	ʒ vi.

In chronic cases of an eczematous nature this ointment is useful:

℞	Ichthyol.	gr. $\frac{3}{10}$–$\frac{7}{10}$
	Amylis, Zinc. oxidi aa	ʒ iiss
	Vaselini	ʒ vi–gr. xxv.

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PUERPERAL FEVER; ITS BACTERIAL CAUSE AND SERUM-THERAPY.

THE deaths which appeal most to the physician are undoubtedly those which occur in child-bed. Despite our increased knowledge concerning the germ origin of the diseases which prove fatal during the puerperium we have not been able to entirely prevent the occurrence of puerperal fever. It had been hoped that streptococcic serum would prove of great service in the treatment of the disease, and in a certain number of instances it appears to have been efficacious, but on the whole its employment has been a source of keen disappointment.

It has been assumed in thus trying streptococcic serum as a specific remedy, first, that puerperal fever is always due to a streptococcus infection, and secondly, that all micro-organisms that grow in chains and take the ordinary anilin stains belong to the same species. Neither of these assumptions is justified by the facts. Puerperal fever undoubtedly is sometimes due to other germs than to streptococci, and it is extremely probable that the diphtheria bacillus sometimes plays a rôle in the etiology of the disease. At times there is perhaps a mixed infection by these germs, as in the throat, and unless care is taken in culture methods it might seem as though only the streptococcus were at work. In infections of the bladder the bacillus coli communis is so often the causative agent that one is tempted to wonder if it plays a rôle in uterine infections also. Adhesions between the uterus or adnexa and intestines often exist as a result of former inflammatory conditions, and by means of these the wandering of intestinal bacteria like the bacillus coli is favored during the post-partum period, when extensive lymphatic absorption occurs. In addition, at this time the uterine tissues are being dissolved in the body juices, and so furnish excellent culture material for the multiplication of micro-organisms. These facts would explain at the same time the origin of certain cases of so called idiopathic infection. The demonstration of the bacillus coli in the process would be extremely important since recent work in France and Italy has shown that the manufacture of a serum which is protective against its infection is possible.

As to unity of species of all streptococci, that is largely an exploded idea. The hope of securing a specific serum depends on our finding some method of surely distinguishing the various forms of microbes that grow in chains. The prospect of successful serum-therapy of puerperal fever, then, depends on a more exact knowledge of the etiology of the disease. In order to bring this about a large number of careful observations will be necessary. The aim is well worthy of the humanitarian sacrifice of time and labor on the part of every one interested in the reduction of mortality among the mothers of the land.

COMPENSATORY THERAPEUTICS.

IT has been found in recent years that by judicious training the impaired functions of many organs may be sufficiently restored to enable them to accomplish for the individual organism practically all that is necessary. Graduated exercises, moderately and nicely adjusted hill-climbing, baths supplemented by judiciously resisted movements while in them, constitute a very helpful resource in the disturbed compensation of chronic heart trouble. Heart lesions do not disappear, and fatty and other degenerative conditions of the heart muscle remain, but a

lasting tone is often imparted to the muscular substance of the heart and the arteries which enables them to do their work with much less difficulty and embarrassment than before.

But cardiac therapeutics is not the only one to benefit by compensatory therapy. Urbantschitzch of Vienna has shown that by aural exercises many supposedly deaf children can be made to hear. He has demonstrated in a number of cases that the hearing faculty is seemingly only lying dormant for want of specific exercise. This exercise it has never secured because the sense of hearing in such people requires much more excitation than in the normal individual. If a special effort is made, however, it responds, and after patient training is able to catch many sounds that before escaped it entirely. The psychical element in hearing is trained to catch the faint inklings of sound that come wandering up through the defective hearing apparatus and that were previously neglected because of their indefiniteness or absolute unmeaningness. This system of developing the faculty of hearing has been found to be effective also in certain cases of deafness due to disease, in which there is no gross lesion of the hearing apparatus.

In tabes, Frenkel's system of exercises enables the physician to relieve to a great extent that most troublesome symptom of the disease, incoordination. To many ataxic patients who have been bedridden for years, walking on the streets, which for them had become either impossible or a torture because of their lack of confidence in themselves, becomes under this treatment not only easy of accomplishment, but a positive source of pleasure. Here, as in the case of the hearing exercises, the psychic element—the training of the attention—is an important part of the treatment, though it seems undoubtedly true, also, that the impaired nerve paths learn by practice to carry more nervous impulses, and do it more definitely than before. That exercise not overdone leads to increase of function, is a maxim that is of wide application in physiological processes, and that it holds good in the case of tabes seems not surprising.

Similar beneficial results have been accomplished here in America in ocular therapeutics by corresponding methods. Patients who suffer from slight errors of refraction have been taught by judicious exercise of their accommodation to compensate for the refractive error, and after a time symptoms disappear even without the use of glasses.

In pulmonary therapeutics exercises have always occupied a notable place, though it is true that of late years even more attention than formerly has been paid to them.

It is evident, then, that we have in this principle of compensatory therapy a very valuable therapeutic measure, and one that deserves even more attention than has been given it. It is strictly in line with the most rational treatment of disease, since its only object is to aid nature, and that by the readiest and most direct means, *viz.*, by guiding and increasing the functional efforts of the organism. Wherever psychic or muscular elements enter into a patient's pathological condition, training is capable of yielding excellent results. In hysterical and nervous affections it has been successfully applied in such methods as the rest cure. In purely mental disease training of the emotions can be most effective for the suppression of symptoms. In such associated psychical states as vertigo, the actual training given to dancers and acrobats may prove of service. In ailments that involve even unstriped muscular fibers, the modern therapeutics of gastric insufficiency and atonic constipation, massage, and electrization is accomplishing much by stimulant exercise.

ECHOES AND NEWS.

Calmette's Serum Effective.—The London *Times* of July 21st contains a report from Allahabad of a well-authenticated cure, by the injection of Calmette's serum, of a snake-bitten patient who was in a state of collapse.

Yellow Fever Decreasing in Mexico.—The Texas State Health Department received official advices from Mexico on July 21st that the yellow-fever epidemic in coast cities and towns is rapidly decreasing in severity. Quarantine has been enforced along the Mexican coast.

More Nurses for the Philippines.—Nine more trained nurses left New York City for the Philippines on July 20th under the auspices of Red Cross Auxiliary No. 3 for the Maintenance of Trained Nurses. When they arrive at Manila they will report to Miss Henshall, who will then have under her direction a corps of twenty-seven nurses.

The Plague at Europe's Doors.—The Paris correspondent of the *Courrier des Etats Unis* states that the plague has appeared in Alexandria, which city is the key of Egyptian commerce. He dreads, therefore, that if quarantine

and medical inspection are not instituted and vigorously enforced, Europe, through the principal Mediterranean ports, will become contaminated.

Santiago's Epidemic Is Ended.—Nothwithstanding the fever epidemic, only sixteen deaths were reported at Santiago during the week ending July 19th. This is the lowest mortality the city has ever known. No new cases were reported after July 14th, and nearly all the patients in the hospitals are convalescent. General Wood will not lift quarantine, however, until all danger is past.

A Universal Language for Men of Science.—At a recent meeting of the Prussian Academy of Sciences, Professor Dills spoke of the need of a universal language for men of science. He considers Volapük an artificial product of little use. English is his choice as the world-language because of its wide prevalence and because its simple structure and grammar make it eminently suitable for such use.

Assistant Surgeon of the First California.—Dr. George H. Richardson of the class of '91, Medical Department of the University of Pennsylvania, who was sent to the Philippines on May 17, 1898, as acting assistant surgeon, has been appointed captain and assistant surgeon in the First California United States Volunteer Infantry. Dr. Richardson's experience has been a very varied one, he having arrived from Burmah only a few months before sailing for Manila.

A Physician Assaulted.—Dr. Robert P. Froehlich of 61 East 105th street, New York, was assaulted and kicked into insensibility on July 24th, by a gang of roughs because he had dressed the wound of a non-union motorman belonging to the Second avenue street-car line whom they had maltreated. Though painfully injured, no bones were broken, and the physician hopes to be able to leave his house within a few days. Steps have been taken to apprehend his assailants.

Asylum for Insane Indians—The asylum for insane Indians at Canton, S. D., for which Congress made an appropriation of $42,000, with an additional $3000 for the purchase of ground, will soon be erected. Out of a total of 250,000 Indians in the United States there are only 58 who are insane, 1 doubtful, 6 idiotic and 2 partly idiotic. It would seem, then, that the simple physiological life of the barbarian has some advantage over the brain-paralyzing existence characteristic of civilization.

Willard Hospital Inspected.—Among 2000 inmates of the Willard State Hospital thirty-four cases of diphtheria have been found. On July 21st the New York State Board of Health ordered a rigid quarantine of that institution. The diphtheria has been of a mild type and no deaths have been reported. All the diphtheria patients are being treated with antitoxin, and immunization doses of the serum have been administered to many of the other inmates. Dr. Macy and his assistants are attacking the disease systematically and effectively.

Post for Army Consumptives.—Secretary Alger has approved Surgeon-General Sternberg's recommendation that Fort Bayard, N. M., be set aside for the treatment of army consumptives. General Sternberg will immediately prepare to equip the post, from which some of the troops will be withdrawn to make room for patients. A competent corps of surgeons will be assigned to duty there, but no special medicinal system will be followed, great reliance being placed on the benefits of the climate. It is proposed to transfer several patients to the new sanatorium from the Soldier's Home near Washington.

The Tobacco-smoking Evil.—A writer in the German scientific periodical *Prometheus* declares that over-indulgence in tobacco will prove the ruin of South-American peoples. Not only do children of two or three years smoke all day long, but mothers have been seen trying to quiet their babies by putting cigars in their mouths. At the recent annual conference of the Lancashire and Cheshire branch of the British Medical Association Dr. J. Hilton Thompson propounded a new theory in respect to cigarette smoking. He showed the distinct presence of carbonic-oxid gas in tobacco smoke, and when inhaled from cigarettes, he said, it has the same injurious effect on the system as choke damp in collieries.

A Prize for a Thesis on Army Rations.—Appreciative of the necessity for proper food for the men of the army and navy serving in tropical climates, Dr. Louis L. Seaman of New York City, late Major-Surgeon of the First Regiment, United States Volunteer Engineers, has offered through the Military Service Institute of the United States the sum of $100 in gold—or a medal of equal value as the successful competitor may elect—for the best thesis on "The Ideal Ration for the Army in the Tropics." This competition is open to commissioned medical and other officers of the army and navy, volunteer and regular. All papers should be submitted before March 1, 1900. The Board of award will be Colonel Weston, Acting Commissary General; Lieutenant-Colonel Charles Smart, Deputy Surgeon-General, and Lieutenant-Colonel William E. Dougherty, Seventh United States Infantry. The headquarters of the Military Institute is at Governor's Island, New York Harbor.

Queen Victoria's Family.—The Queen's family is now an exceedingly large one, how large can perhaps best be realized when the number of her direct descendants is set forth in tabular form:

Queen	1
Sons and daughters living	7
Grandchildren	33
Great-grandchildren	31
Total	72

Besides these direct descendants, the Queen has something like 160 cousins and descendants of cousins. If they are counted with the Queen's own children, grandchildren, and great-grandchildren, the members of the royal family are increased to not less than 230. The ages of the four generations of the royal family in the direct line of succession are:

Queen	80
Prince of Wales	55
Duke of York	34
Prince Edward of York	5

—*London News.*

The "Kissing Bug."—"This and other papers are recording daily the sufferings of people who think that they have been bitten by a newly invented insect. That the bites are inflicted by something is probably true, and there is no doubt at all about the tumefaction and the pain which the doctors are called upon to reduce and assuage, and yet there is not the faintest evidence to show either that a strange insect has made its appearance in the country or even that some familiar one has become more fierce and venomous than usual. The entomologists unite in denying the existence of a 'kissing bug,' and though little creatures by the dozen of one sort or another have been submitted to these authorities as criminals caught in the very act of osculatory attack, still the learned ones refuse to be convinced, and not only give the accused names as ancient as they are long, but assert and, if need be, prove that the incriminated bugs couldn't bite if they would, and wouldn't if they could. The whole trouble seems to be the effect of misguided and overexerted imaginations. Charlatans of the species that has received general mention once or twice in this column claim that all, and occasionally demonstrate, that a few bodily ills can be cured by 'faith.' This 'kissing bug' epidemic tends to show that 'faith' can cause functional disturbances as well as remove them. But everybody knew that before."—*New York Times.*

Railway Accidents in the United States.—The Interstate Commerce Commission makes the following report for the year ending June 30, 1898: The total number of casualties to persons on account of railway accidents during the year ending June 30, 1898, was 47,741. The aggregate number of persons killed as a result of railway accidents during the year was 6859, and the number injured was 40,882. Of railway employees, 1958 were killed and 31,761 were injured during the year covered by this report. With respect to the three general classes of employees, these casualties were divided as follows: Trainmen, 1141 killed, 15,645 injured; switchmen, flagmen, and watchmen, 242 killed, 2677 injured; other employees, 575 killed, 13,439 injured. The casualties to employees resulting from coupling and uncoupling cars were, persons killed, 279; injured, 6988. The corresponding figures for the preceding year were, killed, 214; injured, 6283.

The number of passengers killed during the year was 221 and the number injured 2945. Corresponding figures for the previous year were 222 killed and 2795 injured. In consequence of collisions and derailments 72 passengers were killed and 1134 passengers were injured during the year embraced by this report. The total number of persons, other than employees and passengers, killed, was 4680; injured 6176. These figures include casualties to persons classed as trespassers, of whom 4063 were killed and 4749 were injured. The summaries containing the ratio of casualties show that 1 out of every 447 employees was killed and 1 out of every 28 employees was injured. With reference to trainmen—including in the term enginemen, firemen, conductors, and other trainmen—it is shown that 1 was killed for every 150 employed and 1 was injured for every 11 employed. One passenger was killed for every 2,267,270 carried and 1 injured for every 170,141 carried. Ratios based on the number of miles traveled, however, show that 60,542,670 passenger-miles were accomplished for each passenger killed and 4,543,270 passenger-miles accomplished for each passenger injured.

MEDICAL MATTERS IN NEW YORK.

A NEW CURE FOR INSOMNIA—MATCHES IN TEA, A NEW DELICACY FOR CONVALESCENTS—BELLEVUE'S ACROMEGALY PATIENT DEAD—MORE TETANUS—THE ACTIVE CHRISTIAN-SCIENCE "HEALERS"—THE BABIES' HOSPITAL SUMMER BRANCH—THE HEALTH DEPARTMENT AND ITS NEW QUARTERS—YELLOW-FEVER PATIENTS DISCHARGED.

WE have heard of the man who carried a hot brick in his pocket to keep his feet warm, but never until now of one who attempted to woo the goddess of sleep by inhaling illuminating-gas. A painter, forty-two years of age, residing in Ludlow street, is the latest aspirant for fame in this particular line, and that the sleep induced by this method of treatment did not continue for all time was due only to the opportune discovery of his condition by a police officer. To the magistrate before whom he was haled the painter explained that he had found this original recipe for insomnia in a newspaper, and had determined to give it a trial.

Bellevue Hospital must have its periodical sensation. This time it is due to the accidental introduction into one of the male convalescent wards of a new beverage, the popularity of which, however, appreciably waned after the first draught. It all happened in this wise: A few days since an attendant brought a vessel containing a gallon of hot tea from the hospital kitchen and placed it on a table in the ward preparatory to its distribution to the patients. While his attention was momentarily distracted, one of the patients, in reaching for a glass on the table, overturned a box of matches into the tea. Another attendant started in to distribute the nectar, but noticing the matches floating about in it, decided that a combined wood-pile and weak-tea diet might not be exactly the fuel the convalescents most needed, and so fished them out, but on general principles being opposed to unnecessary waste and all unconscious of the fact that the phosphorus had been dissolved off the matches, proceeded to ladle out the tea. It was not long before there was a sound not exactly of revelry by night, and liberal use of emetics and of stomach-tubes was necessary before the ward was restored to its accustomed matchless equanimity. Fortunately no lasting ill effects resulted from the radical departure from old-time methods, and in future the tea will be served in the regulation way, without frills or addenda.

Then, too, Bellevue has lost its star patient, and great is the regret thereat. Mary Fogarty, fifty-one years of age, who was affectionately and widely known to her friends and neighbors in West Sixtieth street as "Big Nose Mary," died on the afternoon of July 21st from acromegaly. Common report has it that she was the first patient ever received at the hospital suffering from this disease,

although this statement has not been officially confirmed. She weighed nearly three hundred pounds at the time of her death, was nearly, if not quite six feet in height, and wore a heavy beard and mustache. Her hands, feet, and nose especially showed the advanced stage of the disease with which she was afflicted, all being enlarged to enormous proportions.

Tetanus antitoxin has again been tried and found wanting, which, perhaps, is not surprising as it has met this fate so often in this vicinity during the past two weeks. Guiseppi Consumanno, fourteen years old, while patriotically celebrating the Independence anniversary of the land of his adoption, ploughed a furrow on one of his hands with the assistance of a pistol and a small-caliber bullet. Ten days later symptoms of tetanus developed, and on July 16th the boy was admitted to the Columbus Hospital. Antitoxic serum was injected, and every effort made to save his life, but he died on July 22d. This is the twenty-first death from tetanus that has occurred in and about the city since the Fourth of July, and all can be traced directly to wounds inflicted by firearms or fireworks on that day.

The medical and lay press devote columns to ridiculing the claims of Christian-Science "healers," and yet this sect goes merrily on its way contributing to the mortality records. A certain Mr. Robertson, seventy-eight years old, formerly a well-known artist, was the latest victim in this city. His ailment was said to be gastro-enteritis, and he was ill but twenty-four hours. His daughter, a "first reader," or it may be "primer," in the First Christian Science Church of Orange, N. J., believing prayer to be more efficacious than bismuth under such circumstances, administered the former in large doses, with the result that after the lapse of the number of hours above mentioned no further treatment was necessary. Funeral services were held on the 25th inst.

The managers of the Babies' Hospital at Fifty-fifth street and Lexington avenue, on July 22d opened a new hospital building at its summer branch settlement at Oceanic, N. J. It contains an entirely new feature—two private wards in which sick babies from the hotels and cottages of the surrounding summer resorts can be treated. Heretofore the hospital has accepted free patients only, mostly from New York's tenement-houses, but the managers have been so besieged for private treatment by summer frequenters of the resorts nearby, that they have decided upon this departure. Only children under three years of age are accepted in the free wards, but none suffering from contagious disease. Their stay at Oceanic is not limited, but all are cared for while they need sea air and country living.

The ordinance recently offered at a meeting of the Board of Aldermen to forbid the sale of cigarettes to boys under eighteen years of age has been reported favorably by the Law Committee, to which it was referred, and will be acted upon at the next meeting.

Between 350 and 400 tons of records are now being moved from the present quarters of the Board of Health in the Criminal Court building in Centre street to its new home in the building at Sixth avenue and Fifty-fifth street, which was formerly occupied by the New York Athletic Club. The Health Board was organized in 1865, just after a cholera panic, and was first located in the Police building at Mulberry and Mott streets. Five years ago it moved into the quarters it is now leaving, where it has always had an uncomfortable existence because of the prejudice of the other departments of the city to its presence among them. It will now enjoy a sort of "splendid isolation" in a part of the city where it will be more accessible to the medical profession. Almost every year some new duty is added by the Legislature to its work, and backed up as it is by law and by police of its own, it is a very powerful safeguard of the public health. Its Bureau of Vital Statistics records each year the deaths of 50,000 people and the births of as many others. In the Sanitary Bureau there are five divisions—of general and sanitary inspection, of contagious diseases, of medical sanitary inspection, of inspection of foods, offensive trades and mercantile establishments, and of school inspection; and there is a pathological and bacteriological division. The staff of officers consists of the president, three commissioners, the secretary, counsel, seventeen honorary consulting officers, and twelve salaried executive officers. There are nearly 800 employees in the main office, and the 4 branch borough offices, including 96 sanitary policemen. Its expenses are between eleven and twelve hundred thousand dollars a year and it has an income of about $3000 from the sale of vaccines and antitoxins and from transcripts of records.

Miss L. C. Clendenin, who has been ill with yellow fever and quarantined on Hoffman's Island since her arrival here on the transport "McClellan" from Santiago on July 6th, has entirely recovered and been discharged. Mr. Oscar L. Lackey of Baltimore, the other patient from the transport, who was inoculated with antitoxin serum under the supervision of Health Officer Doty, has also recovered and left for his home.

MEDICAL MATTERS IN CHICAGO.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION—INCORPORATION OF THE ILLINOIS SOCIETY FOR THE PREVENTION OF CONSUMPTION—VOLUNTEER PHYSICIANS AS MEDICAL INSPECTORS—RESOLUTIONS ADOPTED BY THE STATE BOARD OF HEALTH—BEQUESTS OF DR. ROBERT L. REA.

ACCORDING to a preliminary announcement the twenty-fifth annual meeting of the Mississippi Valley Medical Association will be held in this city October 3, 4, 5, and 6, 1899. This is the first time the Association has held its meeting in Chicago, and the local profession, under the leadership of Dr. Harold M. Moyer as Chairman of the Committee of Arrangements, has provided many attractions for the visiting doctors. Among them may be mentioned an attractive program in both medical and surgical sections, and special clinics in all the departments of medicine and surgery, to be given at the various hospitals and colleges before and after the meeting.

The occurrence of the autumn festival at this time is an added attraction. The President of the United States

and his Cabinet, Admiral Dewey, the Premier of Canada, and President Diaz of Mexico have signified their intention of being present. The railroads have promised a one-fare round-trip rate, with a liberal limit to tickets. The Committee of Arrangements will issue a souvenir program which will also be the official program, to the number of 35,000, to be sent to every doctor in the Mississippi Valley and territory contributory to Chicago. In addition to the program of the meeting this will contain a schedule of clinics and a sketch of medical Chicago. Dr. Duncan Eve of Nashville, Tenn., is president, and Dr. Henry E. Tuley of Louisville, Ky., secretary of the Association.

The Illinois Society for the Prevention of Consumption has been incorporated by Drs. Frank W. Reilly, Henry B. Favill, and Mr. Joseph Hughes.

Our City Health Commissioner, Dr. Arthur R. Reynolds, has issued a call for volunteer physicians to serve as medical inspectors, and more than forty have been enrolled upon the books of the department to undertake the house to-house canvas for the purpose of disseminating knowledge as to the care of infants and to inspect sanitary conditions. It is intended by the department that the work shall not be interpreted as being of a charitable nature; the physicians are not required to prescribe or perform medical service except in cases of emergency. In the first place, the object is to instruct mothers and those in charge of infants and children during the hot weather as regards hygiene of the young, their feeding, clothing, bathing, and care, with a view to the prevention rather than the cure of disease. Secondly, the object is the correction of sanitary defects and the abatement of nuisances prejudicial to the health of adults and children alike. The work of the Health Department in a city like Chicago is necessarily vast in its possibilities, and especially inviting to medical students who may wish to become experts in bacteriologic or other research. For this reason the plan of Commissioner Reynolds to increase his office force without expense to the city by admitting recent graduates of medical colleges to the Department Laboratory is to be commended. Of course facilities can be furnished for only a limited number, but this is an advantage, as it gives wide opportunity of selection. It is stated that 2623 bacteriologic examinations were made last year, and 2635 examinations of water, ice, milk, vaccine, lymph, butter, etc., and 30,000 other examinations of ice cream, cheese, and the like. In making tests of this kind medical students with a little training will be able to do efficient work and thus add greatly to the value of the department, while at the same time securing excellent drill in the important province of preventive medicine.

At the July quarterly meeting of the State Board of Health, held in this city, the following resolutions were adopted by the Board:

WHEREAS, Section 2, of an Act to Regulate the Practice of Medicine in the State of Illinois, and to repeal an Act named therein, approved April 24, 1899, in force July 1, 1899, gives the State Board of Health discretionary power as to granting certificates to graduates of legally chartered medical colleges in Illinois in good standing as may be determined by the Board, and,

WHEREAS, It is evident, notwithstanding the discretionary power given the Board, that the true intent and purpose of this Act is to require all persons to prove their qualifications to the State Board of Health by passing an examination; therefore, be it

Resolved, That all applicants for a State certificate to practise medicine and surgery in the State of Illinois, who are graduates of medical colleges in good standing, as may be determined by this Board, shall, before receiving a certificate, be obliged to pass an examination such as contemplated in Section 2, of an Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899.

Resolved, That the phrase "medical college or institution in good standing," in the first paragraph of Section 2, of the Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899, is hereby defined to include only legally organized, properly conducted medical institutions, having a sufficient and competent corps of instructors and ample facilities for teaching, dissections and ambulatory and hospital clinics, which conform to the requirements relative to the preliminary education of matriculants, the course and period of study, the number, character, and length of lecture terms, the duration of attendance on hospital and clinical instruction, which obtain in the majority of medical colleges in the United States.

The Illinois State Board of Health, however, will not consider in good standing after January 1, 1900, any medical institution which does not require of all students (excepting graduates of reputable colleges of arts and sciences, or reputable colleges of dentistry, pharmacy, or veterinary medicine, to whom one year's advanced standing may be granted), as a condition of graduation, an attendance of four full courses of lectures of at least six months each, in four separate years, no two courses commencing or ending in the same calendar year of time.

Resolved, That no medical college issuing a catalogue of announcement in which are contained misrepresentations respecting its teaching, clinical or hospital facilities, its faculty, or its courses of study, or false representation as to the number of students matriculated or in attendance, will be regarded as in good standing.

Dr. Robert L. Rea, who died July 10th, bequeathed to the Northwestern University at Evanston $10,000 with which to endow the Department of Anatomy, which shall be known as "The Rea Professorship of Anatomy." The College of Physicians and Surgeons, of which the deceased was a faculty member nearly twenty years, receives $5000, to be devoted to the educational expenses of worthy and indigent students. The bequests to the Northwestern University and to the College of Physicians and Surgeons are direct and made payable inside of three years after the death of Dr. Rea.

For Leucorrhea.—DALCHE claims good effects from the use of tampons soaked in a mixture of lactic acid, 3 parts, and glycerin, 100 parts, which he first tried in the belief that lactic acid is the natural agent for vaginal antisepsis.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

POISON BY POST AND THE INSANITY PLEA—CANCER DELEGATE TO AMERICA—ANOTHER CAUSE OF CANCER—CLIFFORD ALLBUTT'S POLYCLINIC LECTURE—SIR WILLIAM HENRY FLOWER—UNIVERSITY EXTENSION WORK IN MEDICINE—THE MEDICAL DEFENSE UNION.

LONDON, July 16, 1899.

ENGLISH justice has a grim way of "arriving" with surprising promptness. The girl, Mary Ansell, whose callous cruelty in poisoning her imbecile sister for the sake of her insurance money, by means of a cake sent by mail, containing phosphorus paste, we referred to some three months ago, was put on trial last week. She was found guilty and condemned to death inside of forty-eight hours, and was duly hung to-day. A petition was presented to the Home Secretary, urging that several of her family were mentally defective and that the girl herself was probably insane, but as it was overwhelmingly proved at the trial that the prisoner had deliberately taken out an insurance policy on her sister's life without her knowledge, then tried twice to poison her, once unsuccessfully by means of a package of tea, and that she wanted the money in order to enable her to get married, as her fiancé and even she herself admitted; a lunatic capable of that degree of ingenuity and calculation would be a criminal monster, which any community would be justified in hanging in self-defence, and the petition was therefore refused.

Exit consumption, enter cancer. The Cancer Society of London has despatched an envoy, Dr. Arthur Duffy, to the United States to study the American methods of investigating the disease, and especially those of the New York State Cancer Laboratory at Buffalo, under the direction of Dr. Roswell Park. The society's chairman, Sir Charles Cameron, M.P., has announced his intention of moving in Parliament for the appointment of a royal commission to investigate the alleged alarming increase and for the collection of information bearing upon the causation and methods of prevention of the disease.

Dr. Lambert Lack's announcement that he has discovered the cause of cancer in certain disturbances of the basement membrane of epithelium, by imitating which in the lower animals he has succeeded in producing cancerous growths, is read with considerable scepticism. It recalls too vividly the old "isolation" or "strangulation" theory of Cornil, according to which under-proliferation of the connective tissue was the starting point, by cutting off buds or islands of epithelium which once isolated set up reproduction on their own account. However, all will await the publication of the theory and its details in the regular journals with interest. No further details have yet been received from "Dr. Bra of Paris" since his preliminary announcement of the discovery of the "cancer germ" in the daily papers a couple of months ago.

Professor Clifford Allbutt of Cambridge lectured last week before the members of the London Polyclinic on "Cerebral Syphilis." This was the first of a series of single lectures or short courses of lectures by distinguished members of the profession, both of London and the Provinces. The work at the Polyclinic will probably be suspended during the month of August, at the close of the present (second) term of lectures and demonstrations.

The death of Sir William Flower, the distinguished zoologist, has brought to mind the well-nigh forgotten fact that he was originally an active member of our profession. He was a regimental surgeon all through the Crimean War and anatomist and assistant-surgeon at Middlesex Hospital for several years after that. Then for twenty-three years he was Curator of the Museum of the College of Surgeons and for five years Hunterian Professor of Comparative Anatomy in the College, so that although he early retired from actual practice he was intimately connected with the science and teaching of medicine during the greater part of his career. Flower was no giant or discoverer, although he belonged to a generation of such, but he has left behind him a mass of excellent and most valuable work. He was one of the greatest museum-arrangers, administrators, and in the best sense "popularizers" that England has known. The sacred traditions of the Hunterian Museum hardly gave him a fair opportunity, although he did much for the collection and toward its rationalization, but the Natural History Department of the British Museum, South Kensington, became in his hands, one of the model museums of the world, not merely a superb collection, but one great illustrated manual of zoology, the pages of which even he who runs may read. No American physician visiting London can afford to miss spending a day in this splendid monument of the genius and organizing skill of one of our colleagues.

An interesting experiment of medical university extension work has just been tried with great success in Chester. The medical men of that city and the adjacent towns formed a class and invited Dr. Sheridan Delepine, Professor of Pathology in Owens College, Manchester, to deliver a course of lectures on bacteriology. These have been well attended and greatly enjoyed, and the plan is to be extended to other subjects and in other districts.

The Medical Defense Union is coining golden opinions in the profession by its efficiency and vigor in defending suits for malpractice brought against its members. Dr. Woodley Stocker writes to the *Lancet* to express his appreciation of the inestimable value of its assistance in winning a suit of this description brought against him in connection with an injured hand. The value of legal counsel with training and experience in this class of cases, the relief from the most crippling part of the expense, and above all the feeling that you have at your back an organization representing the entire profession are worth everything to the victim of one of these suits. Usually he feels that he has the sympathy of the profession—but must fight alone and pay all the costs himself, and that, too, in a trial from which the utmost he has to hope is an acquittal, which probably half the community will persist in regarding as a miscarriage of justice.

The London School Board has reappointed Dr. C. E.

Shuttleworth and Dr. May Dickinson Berry for another year to continue their admirable work in examining defective children and advising as to the best methods of their education.

The annual meeting of the Jenner Institute has just been held and much enthusiasm was manifested at the encouraging prospects opened up by Lord Iveagh's superb donation. The work of the past year was reported as satisfactory and the plans for the future outlined. These are far-reaching, and include reseach work in comparative pathology.

TREATMENT OF TETANUS BY OPIUM.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Mr. J. F. and grandson were unloading wheat one afternoon at 5 o'clock. The old gentleman reached for a sheaf, and at the same moment his grandson who was looking the other way, ran the tine of a pitchfork into the back of the middle finger of his right hand near the metacarpophalangeal articulation. The wound caused great pain, which became agonizing at 8 P.M., at which time I was sent for. I found the patient livid and gasping for breath. The pain had extended up the arm and to the neck, chest, and heart, the jaws being stiff. One dram of pulverized opium was put in a basin, a pint of boiling water poured on it, and the injured hand being held over the basin, the hot liquid was poured on it with a tablespoon. When a half dozen spoonfuls had been applied the patient experienced wonderful relief. I continued the application for perhaps half an hour, reheating the opium solution several times, and during the night several applications were also made, but no further trouble occurred, and the next day the patient was well, with the exception of some soreness about the hand.

Since then a lady came to see me in regard to her foot which had been injured by treading on a rusty nail two days before. She had suffered great pain, and some stiffness of her jaws was present. When the wound was touched a shock seemed to go through her whole body. A pint of the opium solution was prepared, and her foot immersed in it, the solution being as hot as could be borne. In half an hour the patient expressed great relief. She followed this treatment occasionally for several days, and the symptoms entirely disappeared.

I have treated some half dozen cases of injury of the hands and feet in the same way, with perfect relief in each case. I learned the use of the infusion of opium from the late Professor Nathan R. Smith, while a student at the University of Maryland from 1866 to 1869. It was a favorite prescription with him, and has been likewise with me. I had always used it either warm or cold. The extreme illness of Mr. F. made cooling of the liquid impossible, and thus I accidentally became acquainted with the virtues of the hot infusion of opium. Recent reports of fatal cases of tetanus following slight injuries has prompted the writing of this letter, and I hope that other physicians may have equal success with the above treatment. JOHN J. LIGGET, M.D.

LADIESBURG, MD., July 19, 1899.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

COMMUNICABLE MALARIAL FEVER — REMOTE PROGNOSIS OF PERICARDITIS—HYDRAMNION IN CASES OF HOMOLOGOUS TISSUES — UNSUCCESSFUL NEURORRHAPHY—A DISCUSSION ON COXA VERA IN ADOLESCENCE.

THE Royal Medical and Chirurgical Society, June 13th, listened to a paper by ROGERS on the eradication of Assam epidemic malarial fever. His view was that this is an intensified form of malarial fever, which after a succession of very unhealthy years, has attained the power of being slowly communicable, usually in an indirect manner, from person to person. The success of his recommendations for the eradication of the disease has confirmed this opinion as to its nature. These recommendations were, briefly, as follows: (1) All newly imported coolies should be placed in fresh lines and not allowed to enter old infected ones; (2) in slightly infected lines all infected persons, together with their households, should be moved out into separate segregation lines and the huts which they have inhabited should be burned and not rebuilt; (3) in badly infected lines all the healthy people should be moved out during the dry cold weather months when infection is at a minimum and placed in new lines, while the infected persons and their households should be segregated and the infected line abandoned.

SEQUEIRA read a paper on the remote prognosis of pericarditis. Recent work seems to show that the pericardium acts as a support to the heart during muscular exertion. If the pericardium is softened and dilated by inflammation this support may be lost, and under severe strain the chambers of the heart may therefore dilate at once. If the pericardium becomes dilated and adherent to the chest wall the effect on the heart of working in a dilated sac may become evident in the direction of lack of compensation. If the pericardium is adherent but not dilated the effect will be small. Clinically the 100 cases which he had examined fell into three groups: (1) those in which there was perfect compensation of the heart; (2) those in which compensation was easily broken; and (3) those in which compensation never occurred. In the first group there were thirty-one cases. All the patients were more than fourteen years of age. The pericardium was undilated: there were no symptoms and practically no physical signs. In the second group there were eighty-six cases. The young patients, and especially young females, formed the bulk. There were all gradations in the severity of the symptoms. Many of the patients were in and out of hospital for years, while in some compensation occurred once only. In the young females (from six to fifteen years old at the time of the acute attack) death occurred on the average in little over two years. In the males, in whom the original attack occurred between the same ages, the average length of life was 3¼ years. The extremes were, of course, very wide of this. In the fatal cases the pericardium was found to be dilated and adherent and the severity of the symptoms depended in a great measure upon the amount of the dilatation. Sequeira had found an interesting re-

lation between the annual increase in the body weight and the age at which death took place in the cases in which the acute attack occurred in early childhood. In the third group of cases, thirteen in number, compensation was never complete. In some this depended upon the fact that the dilatation of the pericardium was progressive. The patients were all young and death resulted in from three to nine months after the acute attack. The effect of concomitant valvular disease and of myocarditis was considered and Sequeira concluded that valvular lesions were of little moment in many cases and that myocardial degeneration could not induce the enormous dilatation of the heart so often observed if the pericardium were undilated. Further, the amount of hypertrophy of the heart in cases of adherent pericardium appeared to be in the main dependent upon the amount of dilatation of the cardiac envelope. Sequeira concluded that he had proved that the amount of dilatation of the pericardium must be taken into account in the consideration of the remote prognosis of acute pericarditis and that influences, such as the increase in the body weight and the amount of muscular exertion, which augment the labor of a heart working in a dilated pericardium, tend to impair the power of compensation.

At the Obstetrical Society, June 17th, WILSON spoke of hydramnion in cases of unioval or homologous twins. Although twins derived from separate ova are nearly seven times more frequent than those derived from a single ovum, hydramnion apparently occurs about as frequently in one class as in the other. The paper was founded on two cases which occurred in his own practice, and on twenty others which he had collected. The history of a case of this kind is that the patient, usually a multipara, at the fourth or fifth month and without any assignable cause undergoes rapid enlargement of the abdomen, which in the course of a few days or weeks leads to extreme distress from the pressure. The affection ends in nearly every case in spontaneous delivery before the end of the seventh month, although in about twenty per cent. labor has to be induced. The contents of the uterus are found to be twin fetuses of the same sex, one of which is decidedly larger that the other, and is enclosed in an amnion containing an enormous excess of fluid. There is a single placenta common to the two fetuses, a single chorion, and two amnia. The heart and kidneys of the larger fetus are hypertrophied, often enormously. Neither fetus shows any malformation and the mother is healthy. The cause of the hydramnion is found in the relation of the vessels of the two fetuses to the common placenta. The twin whose vessels run a shorter or more direct course obtains an undue share of blood from the placenta, in which anastomoses take place between the vessels belonging to the two fetuses. In this way one fetus grows faster than the other and the heart of this one becomes not only absolutely but also relatively larger than that of the other. This leads to an increased secretion from the kidneys, and possibly from the skin and the placenta. The appropriate treatment is the induction of premature labor by puncture of the membranes.

At the British Orthopedic Society, May 27th THOMAS showed a patient in whom the left popliteal nerve had been injured by a kick from a horse, and talipes equinovarus had followed. Neurorrhaphy having failed, tarsectomy was performed with an excellent result.

TUBBY said that it is difficult or impossible to restore a nerve by suture when the division has occurred at or near the point where the nerve breaks up into branches. He further described a case occurring in his own practice in which spastic hemiplegia with flexion of the elbow and wrist and pronation was treated by open section of the flexor tendons, especially the flexor carpi radialis, and detachment of the pronator radii teres from its insertion. A hole was made in the interosseous membrane and the tendon was passed round the back of the radius to its outer border and fixed, thus reversing the action of the muscle. The wrist was kept midway between flexion and extension by means of splints. In six weeks the patient could pick up a pin.

KEETLY opened a discussion on coxa vara. He described types of the two chief varieties which commence in adolescence. The deformity is rachitic in origin. The partial or even total absence of rachitic changes in other parts is no disproof of this, as the older the patient the more localized do rachitic changes tend to be. The various modes of osteotomy which had been carried out or proposed, including a new method, were described. In theory the neck of the bone should be operated on; in practice the trochanteric region is more convenient. Decreased angle of the neck and shaft forms the striking feature at a first glance at the deformity, but the main changes are in the neck itself, especially near the head. In fact, coxa vara is a rachitic deformity of the upper epiphyseal region of the femur. The deforming influence sometimes extends far down the shaft. Compensatory genu valgum is common. The speaker called attention to a peculiar expansion of the facial bones, giving prominence to the eyeballs and width and flatness to the upper half of the face. Coxa vara in cases of early rickets is very common, but cases during adolescence are rare. The commencement of the flood of modern literature on the subject dated from his own paper in the *Illustrated Medical News* of September 29, 1888. The hip-joint is healthy in these cases. For this and for other obvious reasons excision is not justifiable.

LITTLE found great difficulty in accepting the theory that late rickets is the cause. In none of the extremely rickety skeletons in the London museums is anything approaching the deformities depicted by Kocher and others found. It seems to be a process *sui generis*. Charpentie had shown that osteitis may cause the deformity.

SOCIETY PROCEEDINGS.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting, Held March 15, 1899.

THE President, WILLIAM STEVENS, M.D., in the Chair.

SCURVY ASSOCIATED WITH MEMBRANOUS COLITIS.

DR. J. H. FRUITNIGHT: I have recently had under

observation a case of scurvy occurring in a boy, eight years of age, the child of wealthy parents. He had been allowed to eat a great deal of salt meat and salt smoked fish, these forming his principal diet, for he would not eat potatoes or any other vegetables. The disease showed itself first by pain about the joints, particularly near the knees, ankles, and wrists; ecchymotic spots also appeared in the neighborhood of these joints. The gums soon became spongy and bled easily. Child also complained of great pain over the region of the descending colon which seemed to indicate some intestinal disorder. An enema was given and this brought away a strip of membrane six inches in length, stained with blood, with the result that the abdominal pain ceased. The intestinal trouble lasted about ten days, the temperature reaching 103° and 104° F. My theory is that there was a submucous extravasation of blood in the colon, analogous to the ecchymoses in the skin, and that this had caused the membrane to be exfoliated. The scurvy symptoms disappeared rapidly under the administration of orange-juice and the child is now well.

DERMOID CYST REMOVED FROM A YOUNG CHILD.

DR. JOHN F. ERDMANN: I recently saw a child, one year and one month old, who had a small tumor above the left external angle of the frontal bone, directly over the outer edge of the orbit. It was the size of a filbert, and was movable only in a transverse direction, being evidently partly bound down by adhesions, etc. A tentative diagnosis of dermoid cyst was made. The tumor, subperiosteal in position, was removed and proved to be a cyst filled with cheesy and fatty matter containing half a dozen hairs from one-half to three quarters of an inch long.

Not long ago I was called to a see a young man, twenty-two years of age, who was suffering from appendicular colic, this being his fifth or sixth attack. All the evidences of acute appendicitis were present. The peculiar feature of the case was the fact that the pulse-rate was slow, only 55, in spite of a subnormal temperature, 97° F. The former, however, was of good volume and the general facial expression was not that of shock. Palpation revealed an appendix about as long and as large as my middle finger. During the next twenty-four hours the pulse increased five or six beats per minute, and the temperature became normal. At the end of forty-eight hours the pulse was only 68, a condition of tachycardia with appendicitis. Symptoms having moderated operation was advised at a later date. A week later I opened the abdomen and found an appendix 3½ inches in length with a stricture 2 inches from the tip, and a large mucus inclusion. The patient made a good recovery.

DR. C. A. LEALE then read the paper of the evening, entitled

SEROUS CEREBRAL APOPLEXY.

This he described as a condition characterized by the rapid effusion within the brain or its membranes of the serum from the blood circulating within the cranial cavity. It may also be associated with a rupture of a blood-vessel and extravasation of blood, in which case it becomes one of serosanguinous apoplexy.

When simple, idiopathic apoplexy occurs not a drop of blood escapes, only serum is found, and there are apparently no other pathological evidences present in the brain or the surroundings; or a general cerebral edema may be present, similar to the "wet brain" of the paretic, due to interstitial effusion of serum and atrophy of the brain to make place for the serum. A sudden increase of this effusion may be caused by cerebral congestion, intense mental strain, great emotion, rapid dilatation of the stomach, etc., and sudden unconsciousness, or profound coma may supervene. If the patient be promptly and properly treated, he may quickly recover, or he may gradually decline until death ensues. The first symptoms usually noticed are, profound nausea accompanied by attempts at vomiting, when the contents of the stomach may be sucked into the larynx or trachea and cause suffocation. In serous cerebral apoplexy the patient falls suddenly, the face becomes pale and the hands cold and clammy; or in exceptional cases of the cyanotic type, the face becomes red, and the blood-vessels turgid. In some cases the brain retains its power, but usually its function is impaired and unconsciousness follows. In others cases there may be such a degree of cerebral edema and localized intracranial pressure that hemiplegia or general paralysis follows. The great danger in serous cerebral apoplexy is that the feeble heart will cease to continue action. Therefore the head should be kept low, the body at rest, and moist heat should be applied to the brain. If necessary forcible respiration must be employed. With this treatment the patient will usually so far recover that in the course of an hour he can be moved to a place of comfort, if still kept continuously in a prone position.

The author cited several cases of serous cerebral apoplexy, and one in a man, sixty years of age, who was suddenly stricken with serosanguineous apoplexy while quietly reading. He immediately became unconscious and soon passed into a state of profound coma. The condition of the patient was alarming and did not differ much from that of a man suffering from simple serous cerebral apoplexy. The man died without recovering consciousness, and an autopsy showed a very minute rupture at the circle of Willis. The opening was so small that it seemed almost impossible that death could have been caused by the small amount of blood extravasated. But in addition, a large quantity of serum was found at the base of the brain, and to the presence of the latter was attributed the profound coma which preceded and was the direct cause of death.

Cases of serous and sanguineous cerebral apoplexy are of frequent occurrence and are attributed by the author to heart and kidney diseases, to the conditions under which business men of the present generation live, and to the rush, worry, and mental strain to which they are subjected. He emphasized the importance of examination of the eyes, as premonitory symptoms of the conditions may there be indicated weeks before an attack occurs. These are shown by redness of the conjunctivæ, involuntary tears running down the cheeks, and increased intra-

ocular pressure. He considers such an examination of greater importance than urinalysis.

DR. EDWARD S. PECK: In regard to the ocular and intra-ocular symptoms which have been emphasized by the author, there can be no doubt that these exist. I have made a few examinations of the fundus of the eyes in these cases and have found a circumscribed perioptic effusion nicely limited to the region about the optic nerve. The condition is not an optic neuritis or an inflammation of the retrobulbar portion of the optic nerve, but in appearance is more like a hyperplasia of the retina itself. Usually, vision is not at first interfered with. The condition, as a rule, is present in both eyes and ultimately ends in optic-nerve atrophy. Some years ago I saw a man who was suffering from Bright's disease. He was attended by a prominent medical practitioner, who had not recognized the disease, and who treated him for nausea and acute dyspepsia. I examined his eyes and found this very marked infiltration about the optic nerve, together with the peculiar condition of the nerve stem and macula, and gave the opinion that the man had only a short time to live. In two weeks he was dead. In two other cases I was able to predict early death after making an examination of the eyes and noting this condition. One of these cases was an acute Bright's disease, and the other a serous apoplexy.

DR. S. N. LEO: I have seen many cases of cerebral apoplexy in people of advanced life, and there is no doubt that the premonitory symptoms referred to in the paper are often overlooked. I recall having made an autopsy in a very interesting case at the Colored Home some years ago. Two of the inmates had had an altercation and it was alleged that the dead man had been violently struck on the head by his comrade. I found a magnificently developed man, fifty nine or sixty years of age, but there was no mark or abrasion on his head or anywhere else on the body. As it was said that the man had bled from the ears I thought there might possibly be a fracture at the base of the skull. I made an incision well down below the occipital protuberance; the skull was exceedingly thick. After I lifted the pia mater and reached the arachnoid I noticed quite a large blood-clot under the pons, and another under the optic tract. Both were quite hard, showing that they had been formed some time. In addition I observed an immense effusion in each ventricle. There was no sign of a fracture. It was further found that the man had advanced Bright's disease. The only conclusion which could be reached was that the man had died of an attack of apoplexy, such as has been so graphically described by Dr. Leale. I am of the opinion that the condition is largely superinduced by advanced disease of the kidney and by senile degeneration. I do not think, however, that the short-necked man is especially apt to have apoplectic seizures.

DR. ROBERT NEWMAN: We have all seen the cases described by the author. The serous form of the disease is not so dangerous as the sanguineous because in the former there is no blood-clot to be absorbed. Many of the patients recover without treatment. I do not attach much importance to the premonitory symptoms for the reason that the attacks occur suddenly and unexpectedly, as a rule. In regard to the treatment of sanguineous apoplexy, it is doubtful if much can be done. Rest and efforts of Nature will do most. However, I would like to ask the author whether he thinks that the iodid of potassium has a good effect in promoting absorption. In these cases the prognosis largely depends upon the degree of paralysis which usually exists to a greater or less extent.

DR. J. BLAKE WHITE: In my experience it generally occurs that the serous form of apoplexy manifests itself more slowly than the sanguineous variety. The brain is tolerant of a slight degree of effusion, and the symptoms become alarming or fatal in proportion to the amount of effusion and its interference with function. I agree with Dr. Leo that short-necked individuals are not especially prone to this type of apoplexy but rather to the sanguineous or mixed variety. It is usually seen in persons broken down by chronic disease and in a cachectic condition occurring as a secondary affection. An ophthalmological examination I can understand would assist very much in making an early diagnosis in these cases, and I am in accord with the views of the author that good results might follow if this precaution were taken.

DR. ROBERT H. GREENE: I would like to say a word as to the prevention of most forms of apoplexy. It seems to me that heredity plays a strong part in the causation of this condition, for in most cases the parents of the patient have suffered from atheromatous changes in the blood-vessels at an early age. These changes often take place at an earlier age than is required by the laws of Nature for one reason, because individuals are so apt while perhaps exercising their brains to exercise their bodies too little. If persons who are predisposed by heredity to this condition would exercise every day methodically to the point of perspiration, their arteries would not break down as early. It is an established fact, determined by microscopical examination, that these degenerative changes begin in the muscular coat of the blood-vessel.

DR. S. H. DESSAU: In regard to the differential diagnosis of serous and sanguineous apoplexy, I would like to ask the author if hemiplegia is ever present in the former condition, or whether it is pathognomonic of the more severe form of apoplexy only. As the treatment in each is different, it is rather important that the two conditions be differentiated.

DR. J. H. FRUITNIGHT: The term serous cerebral apoplexy is seldom used nowadays and modern writers have omitted it from their books. In sanguineous apoplexy a change has previously taken place in the arteries, usually as the result of age, but not always. "A man is as old as his arteries" is a trite saying for even in young men we see changes in the arteries as a result of syphilitic degeneration, the well-known syphilitic endarteritis which often terminates in cerebral apoplexy. It seems to me that serous apoplexy may be considered rather as the result of a toxemia and occurring most frequently as a concomitant of the so-called uremia of chronic nephritis.

DR. A. M. JACOBUS: I desire to ask the author whether there are any records of autopsies made in cases

of serous cerebral apoplexy, and, if so, whether or not evidences of cerebral hemorrhage, embolism, or thrombosis were found. I would also like to know what are the differential points in diagnosis between the so-called serous cerebral apoplexy and the other forms.

THE PRESIDENT: The paper contains many interesting points. I agree with Dr. Greene in what he has said about heredity being a causative factor. I was especially impressed by the truth of this some five or six years ago when I saw in consultation a case of this kind. The patient was a middle-aged man, and upon inquiring into the family history I learned that five of his brothers had died suddenly at or about the age of forty-eight. I predicted that he would not live more than twenty-four hours, and such was the case.

I would like to hear the author say something about hemiplegia in these cases, and also in regard to the use of iodid of potassium to favor absorption, as suggested by Dr. Newman.

DR. LEALE, in closing: In regard to treatment, I find that no remedy acts so well in relieving this condition as elaterium. It has a marked hydragogue effect, and causes a rapid pouring out of serum into the intestinal tract, and thus relieves the congestion in the brain. Rapid resorption of the serum then follows from all the cavities in which the serum lies. I have known two or three gallons of fluid to pass from the gastro-intestinal tract. Sometimes elaterium causes vomiting of fluid in consistency very much like the rice-water discharge of Asiatic cholera. The iodid of potassium, or the iodid of sodium, which is better borne, may be administered at a later period to complete absorption. Pilocarpin, which will produce profuse sweating within eight minutes is sometimes beneficial, but the objection to its use in serocerebral apoplexy is that it depresses the heart. It should never be employed if there is much intracranial blood-pressure with atheroma. The all important pneumogastric nerve must always be considered and the teachings of physiology remembered.

Hemiplegia, as a rule, does not occur in serous cerebral apoplexy, for the reason that in this condition there is an equalized pressure upon the brain and not a localized pressure at any one point, as is the case in cerebral hemorrhage. But there may be a modified form of general paralysis, which generally passes off within twenty-four or thirty-six hours after the patient has been stricken.

I have known a man stricken with serous cerebral apoplexy to remain unconscious for hours, yet be apparently well within a week.

The term serous cerebral apoplexy is an old one and recent writers continue its use.

We live in a time which produces men who die suddenly. The New York business man lives under a tremendous pressure. Merchants, lawyers, clergymen, and doctors are all struggling for an existence and eminence. The pressure of life is so intense and the mental exertion is so great that it is easy for me to understand why we see so many cases of serous cerebral apoplexy and sudden death.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held Thursday, May 18, 1899.

THE President, DR. WILLIAM H. THOMSON, in the Chair.

The first paper of the evening, on

RECENT METHODS OF LOCAL ANESTHESIA FOR MINOR AND MAJOR SURGICAL OPERATIONS,

was read by DR. ALEXANDER B. JOHNSON. He said that the main advantage of local over general anesthesia is that it involves less risk. If local anesthesia could always be made absolutely painless this would be true. The shock and worry of operation during consciousness, however, and the pain it gives during and after operation are serious objections in many cases.

In acute inflammatory cases the application of local anesthesia means a good deal of pain and there is a dull ache afterward that seriously disturbs the patient. In addition the infiltration of the tissues by the anesthetic may interfere with primary union. At times the dissection of the tissues during the operation must unexpectedly be carried deeper than was anticipated, good anesthesia is hard to secure in the depths of the wound, the surgeon is disturbed, and his technic and the completeness of the operation is apt to suffer.

At times, moreover, patients have an idiosyncrasy for cocain and excitement develops even after the employment of but small amounts. It may develop without warning, and this point must be carefully borne in mind by the surgeon. When marked idiosyncrasy exists, even small operations cannot be performed with local anesthesia, but even in milder forms the field of application for local anesthetics is very limited. It was thought that most of the pneumonia that developed after operation would disappear on the use of local instead of general anesthesia, with its consequent irritation of the pulmonary mucous membrane. This, however, has not proved to be the case. Though more limited in application than was hoped at first it would be, local anesthesia is of distinct service. It may be employed with advantage in the surgery of the skin, the hand, the foot, the mucous membrane, the eye, for such operations as the wiring of the patella, the tapping of the knee-joint, urethrotomy, the resection of a rib, and the like. In major operations it is apt to impair operative technic and unless there is some special reason it should not be employed. In gastrostomy and in the operation for cancer of the esophagus, when it is necessary to avoid vomiting afterward, local anesthesia may be properly adopted. The speaker had seen cruel operations performed under local anesthesia, but it requires the utmost coolness on the part of the operator, and a certain hardness of feeling not often possessed by the surgeon.

As to the means for local anesthesia ethyl chlorid serves a good purpose in superficial work, for skin incisions, or for needle insertions. The two great local anesthetics for introduction under the skin are cocain and eucain. The latter is growing in favor. For mucous membranes, as in the mouth, it is better to paint the site of operation with a strong solution, using a camel's-hair brush, rather than to spray the whole cavity. Symptoms

of intoxication often develop suddenly and without warning and are to be guarded against. In the urethra, local anesthesia may be secured by irrigation, the urethra being filled with a 5-per-cent. solution, which is allowed to remain for one minute. It is claimed that half an ounce of a 5-per-cent. solution will produce satisfactory anesthesia of the bladder, but the speaker said he had had no experience with this procedure. In the urethra special care is needed to guard against intoxication. Around the face sudden symptoms of intoxication sometimes develop. He had once seen 5 minims of a 4-per-cent. solution introduced into the supra-orbital region for neuralgia produce alarming symptoms. In another case 6 minims of a like solution had a similar effect.

In acute inflammation the pain is lessened by injecting the anesthetic around the inflamed area. In operations upon the hands and feet a rubber ligature should be applied at the wrist or ankle or on the fingers or toes. The free bleeding afterward removes the cocain and much more of it can be used. It must be remembered, however, that the application of a ligature is painful and gives rise to bitter complaints afterward. Injections made over the course of a nerve, as at the side of the finger, make the area of its distribution anesthetic.

Schleich of Berlin adds the well-known anesthetic effect of tension to that of the drugs employed. His solution contains a minimal quantity of cocain and a certain amount of morphin, besides common salt. The morphin, however, is of no advantage as it has no local anesthetic effect. There are certain objections to Schleich's method, as the number of needle punctures necessary are annoying to the patient and bothersome to the surgeon. The forcing in of fluid into an inflamed area may lead to the spread of infection and the tension on the tissues conceals anatomical details.

Eucain solutions have the advantage over cocain solutions that they may be boiled. Cocain breaks up if heated to the boiling-point. There are some other substances that have been used and recommended but clinical experience with them is not extensive enough to justify a definite conclusion as yet as to their efficiency and value. Among them the most prominent are eucain "a", certain derivatives of guaiac and orthoform. None of them is capable of replacing cocain or eucain.

In the discussion which followed DR. HOWARD LILIENTHAL said that two years ago he would have agreed with the essayist as to the very limited field there is for the use of local anesthesia. Now, however, he felt differently. He learned to distrust cocain but now trusts eucain. As for pain with local anesthesia, patients often fear that they are about to be hurt and complain very much. The best proof, however, that they do not suffer actual pain is that they do not move. Cocain is especially dangerous because it depresses the heart. He had seen 4 minims of a 5-per-cent. solution injected for the removal of a wart produce serious symptoms. Eucain, on the contrary, is a heart stimulant. Five grains may be used in the case of a feeble subject and as high as 10 grains has frequently been used without evil result. Eucain causes an unpleasant, painful feeling afterward. This may be relieved by packing the wound with orthoform gauze. That operations under eucain are painless, the fact that physicians have come back to have boils opened under it seems sufficient proof. A method not sufficiently employed by surgeons, though well known to dentists, is the cataphoresis of cocain. He had had sensitive dentine removed in this way absolutely without pain.

Eucain should not be employed with a constrictor as it is liable to cause necrosis. For even serious operations eucain local anesthesia suffices very well. In three cholecystomies no pain was felt except that occasioned by pulling on the gall-bladder in bringing it up to attach to the skin incision. In operations for strangulated hernia the drug does very good service and he had used it very satisfactorily in operations for the radical cure of hernia.

A hypodermic injection of morphin, ¼ to ⅓ of a grain according to the patient's condition, relieves the mental strain and should be given a few minutes before the operation. If in the course of the dissection a nerve is met with a tiny drop of the solution should be injected directly into it. There need be no hesitation to give chloroform if it should be considered advisable after having tried eucain as the drug is stimulant not depressant.

DR. BATES said that cocain does not always produce local anesthesia satisfactorily for eye work. In operations on the muscles especially, pain is often complained of. When anesthesia is good a blanched appearance follows the use of cocain. In certain patients hyperemia of the parts developed and in these pain would always be complained of. In most of these cases the use of extract of suprarenal capsule used in conjunction with the cocain would produce the desired capillary closure with blanched appearance and anesthesia. The mental condition is important, however, and in excitable, neurotic patients, even with extract of suprarenals one is not always sure to obtain good local anesthesia.

DR. JOHNSON said that he is not a pessimist as to local anesthesia. He uses it every day in dispensary and office practice. There is a good deal of pain associated with the use of local anesthesia and especially after the operation is over. As to neglecting a patient's complaints there are surgeons who can and still do justice to their work, but he cannot, and a squirming, complaining, patient makes him hurried and not as exact and careful as he would otherwise be.

The second paper, entitled

FURTHER EXPERIMENTAL RESEARCHES ON THE EFFECTS OF DIFFERENT ANESTHETICS UPON THE KIDNEYS,

was read by DR. ROBERT COLEMAN KEMP. It contained the report of a series of exact observations upon the kidneys of animals in which an oncometer had been used to determine the varying size of the kidney and the amount of blood going to it at any time, while section of the ureter showed the amount of urine being excreted. Ether gave a characteristic oncometric curve with a persistent fall in blood pressure in the kidney and diminution of the amount of urine passed. This was markedly different from the effect of any other anesthetic and even in anesthetic mixtures the presence of ether could be de-

tected by its effect on the oncometric curve. As the ether was pushed urine became less and less in amount and more and more albuminous, and finally suppression of urine resulted.

Chloroform depressed the heart and consequently the kidney circulation, but albumin did not occur so abundantly and the decrease in urine was only proportionate to the decrease in general blood pressure. There was no specific effect of the chloroform upon the kidney as was the case with ether and urinary suppression did not occur.

The A.C.E. mixture, in the proportion of 1, 2, and 3 by volume of alcohol, chloroform, and ether, acted differently according to circumstances. If air were freely admitted then the ether seemed to be without effect, and only the same effect as that produced by chloroform was noted. Without free admixture with air the ether kidney developed.

Schleich's anesthetic mixture was found to be especially severe on the kidneys, an emphasized ether kidney resulting very soon, with suppression of urine. No variation of this result was noted when curara was administered. Nitrous oxid had the least direct influence. The circulation was slowed but immediately restored on withdrawing the gas. No specific effect was observed on the kidneys, and the effect noted was evanescent with rapid return to normal.

Anesthol, Dr. Willy Meyer's proposed variant of Schleich's anesthetic mixture, is especially dangerous. Bloody urine occurred and complete suppression of urine set in very soon after the beginning of the anesthesia. The blood-clots could be traced up into the pelvis of the kidney so that the irritation was of the secreting substance of the kidney.

His conclusions were as follows: As far as their effect upon the kidneys are concerned Schleich's anesthetic mixtures and anesthol are most dangerous, ether comes next, producing a specific effect on the kidneys, chloroform is less hard on the kidneys, and nitrous oxid affects them least. Some of these conclusions have been confirmed by clinical experience. After an anesthetic more than half the patients have albuminuria when there was none before. Lawson Tait has pointed out that with chloroform the danger from the anesthetic was immediate but with ether it was subsequent in the danger from pneumonia and uremia.

The third paper, entitled

TECHNIC OF ADMINISTRATION OF ANESTHETICS TO PATIENTS SUFFERING FROM KIDNEY TROUBLES,

was read by DR. THOMAS L. BENNETT. He does not consider a passing albuminuria even with a few hyalin casts as especially significant. They are not always due to the anesthetic but may be found also after operations where no anesthetic was employed. Exposure of the patient during an operation seems to have this irritant effect upon the kidneys and great care should be exercised in keeping the patient covered especially when a kidney lesion exists. Then the patient should be transferred as soon as possible after the operation to a heated bed in order to arouse the skin to action. Operations on the genito urinary tract seem to affect the kidneys reflexly and require special precautions as to anesthetics and care for the warmth of the patient.

In the order of their influence on the kidneys anesthetics may be arranged about as follows, beginning with the least harmful: (1) Local anesthesia. (2) Nitrous oxid with oxygen. (3) Nitrous oxid with air. (4) Chloroform. (5) Ether. Of any of the general anesthetics in a nephritic patient the smallest quantity possible should be used. Only analgesia, not complete anesthesia, should be sought. The conjunctival reflex should not be abolished, pupillary activity should remain, and other reflexes, and even soon slight pain, may be allowed to be present.

Nitrous oxid is the least harmful but the state of asphyxia it produces causes a passive congestion. If air is mixed with it the asphyxia is less, but the anesthesia is not so good. When mixed with oxygen, as Hewitt has suggested, it is least harmful. A special bag, with a diaphragm and a mixer for the two gases, is employed and the effect is very different to that seen when ordinary nitrous oxid is employed. It must be confessed, however, that certain subjects fail to be brought under the influence of the anesthetic sufficiently to permit of surgical operations. In some cases, too, vomiting occurs after nitrous oxid, and the after suffering is often great because of the prompt revival from the anesthesia.

DR. MELZER, in the discussion, said that he considers the action of ether upon the kidney scarcely as a specific one. Caffein has just the opposite action upon the circulation to that of ether. There is first a fall of blood pressure and then a rise, so that it becomes an interesting question as to whether caffein would compensate for ether. In case of suppression of urine, he has found salicylate of soda effective in restoring urinary secretion. The double salicylate of caffein and soda would seem to be especially indicated.

DR. ABBE said that despite the experimental results obtained he would trust to ether as an anesthetic. In a number of cases examined at St. Luke's Hospital albumin and casts had been found in the urine after ether anesthesia, but they were hyalin casts and disappeared after a day and practically no significance should be attributed to them. Even repeated administration of ether does not produce nephritis, and no lasting damage seems to be done to the healthy kidney. He also has seen good from the use of salicylate of soda in urinary suppression. In a case of pyuria he saw excellent results follow its administration. While in certain cases with only diminished urinary secretion not much effect seemed to follow its use he thinks it well worth further careful clinical observation.

It would be unfortunate if a diminished confidence in ether should follow the observations made in these physiological studies for ether is our most trustworthy anesthetic. The exposure of the patient during operation is important in its influence on the kidneys, but not the anesthetic ordinarily.

DR. J. E. KELLY said that mixtures of anesthetics seem to combine all the disadvantages of their ingredients. Some of the more recently suggested mixtures would seem theoretically at least in this regard to be per-

fect death-dealers. As for himself he prefers chloroform as an anesthetic. He has seen two deaths from chloroform anesthesia both of which he considers could have been justly attributed to careless anesthetists. He has seen five or six deaths in ether anesthesia, and only once was the anesthetist at fault.

DR. KEMP, in closing the discussion, said that an important element in the effect of an anesthetic upon the kidneys is the susceptibility of the patient to irritants—his personal equation. For this it is advisable to know some details of his previous life and his tendency to react to exposure and the like.

REVIEWS.

THE SERUM DIAGNOSIS OF DISEASE. By RICHARD C. CABOT, M.D. Physician to Out-Patients, Massachusetts General Hospital, Boston. New York: Wm. Wood & Co., 1899.

THIS volume adds little that is new to our knowledge of serum diagnosis; nor can it be regarded as a very practical laboratory guide. The author plainly disavows any such claims for his work. He states in his preface: "This book is nothing but a compilation. Its aim is to bring together in convenient form the results of the immense amount of work which has been done in serum diagnosis since 1896." With this sole purpose in view the author has presented in a clear and condensed form the results of the work of himself and others in the experimental and clinical study of serum reactions in typhoid fever, cholera, leprosy, tuberculosis, etc., these results being conveniently classified, compared and reviewed. The review is not very critical, however. The greater part of the book is devoted, as might be expected, to the Widal reaction in typhoid fever.

Both as a condensation of the literature of the subject and as a bibliographical reference, the work is of distinct value. It is well printed and freely illustrated.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART A. HARE, M.D. Vol. II. June, 1899. Philadelphia and New York: Lea Brothers & Co.

THE second number of the new quarterly shows that the high standard already established and so well justified by the contents of the first volume is maintained and further substantiated. Dr. Coley presents an excellent up-to-date review, especially of the three subjects of greatest practical interest in abdominal surgery just at present: the surgery of the gall-bladder, of radical operations for hernia, and for appendicitis. In the surgery of the biliary tracts the recent work of Rehr in Germany and Mayo Robson in England has been most encouraging. It is evident that a great development in biliary surgery is about to take place and that active interference early in the case will replace the expectant methods that have been adopted up to this time.

In the review of the recent work on the radical cure of hernia Kocher's methods and results especially are detailed and commented on. In the last five years none of his patients have died and in no case in which Kocher himself has operated in recent years has there been a relapse.

The review of the literature of appendicitis is very interesting especially because it brings out the fact that the subject is now as much discussed abroad as it has been here in America for the last few years. Czerny's view that the first attack of appendicitis belongs to the physician is the expression of an ultra conservative, as practically all are agreed that appendicitis is now from the very beginning a surgical affection.

Dr. Clark in "Gynecology" presents a very interesting review of the recent experimental work done on the transplantation of the ovaries. There would seem to be possibilities ahead in this subject that may lead to important and very practical developments. With regard to that very interesting subject, the occurrence and prevention of ventral hernia after operation, some very striking facts are brought out. For instance, it is clear from Abel's investigation of the case of Professor Zweifel, the head of the the Gynecological Clinic at Leipzig, that a number of prejudices are unsubstantiated by actual experience. Abel succeeded, with what painstaking patience may be well imagined, in getting the after histories of all but five of nearly 700 patients. From his statistics it would appear that the wearing of a bandage has absolutely nothing to do with the prevention of hernia, and the time of resumption of active work by the patient stands in no causal relation to the production of the lesion. There is abstract of the discussion between Behrens of Berlin an and Professor Neisser of Breslau on the treatment of gonorrhea in women in which Neisser's plea for active germicidal treatment rather than that by simple astringents is commended and his recent declaration of faith in ichthyol for this purpose commented on favorably.

We are tempted to say more about the good things in this number and cannot close our review of it without at least a reference to Dr. Stengel's very interesting abstract of recent work on the relations between diabetes and glycosuria and Dr. Jackson's excellent review of the recent literature of the toxic amblyopias.

URINARY ANALYSIS AND DIAGNOSIS by Microscopical and Chemical Examination. By LOUIS HEITZMANN, M.D. With 108 Original Illustrations. New York: William Wood & Co., 1899.

THE meritorious feature of this new manual of urinary analysis is its illustrations, all of them original. The plates showing the different forms of cells that occur in urine, with their probable origin, are especially interesting. The clusters of fattily degenerated epithelial cells, with their abundant content of bacilli and cocci, which constitute smegma, and which occur so often in the urine of females, have not before been so fully described or so characteristerically illustrated as they deserve. There is, perhaps, a tendency noticeable in the book to claim too much for the possibilities of recognizing microscopically the site of origin of the various forms of epithelial cells, but the fault is in the proper direction, for, as a

rule, diagnosticians do not make sufficient use of the histological indications furnished them by the various cells that occur in urinary sediment. In this respect the book is a distinct advance on handbooks of urinary analysis generally. The characteristic microscopic picture of the urinary sediments of such conditions as acute and chronic prostatitis, of spermatocystitis or seminal vesiculitis, and of chronic catarrhal vaginitis are interesting and suggestive, even though one may not be prepared to go as far as the author in enthusiastic claims for the diagnostic usefulness of the microscope in these conditions. On the whole, the book is one of the best of its kind and is thoroughly up to date.

MATERIA MEDICA AND THERAPEUTICS. An introduction to the Rational Treatment of Disease, for the Use of Students and Practitioners of Medicine. By J. MITCHELL BRUCE, M.D., F.R.C.P., etc., Physician and Lecturer on Medicine at Charing Cross Hospital, London. Sixth Edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co., 1899.

THIS work appears in the same compact form which (together with its scientific value), made it in the first edition so popular among American, as well as among English, students. Changes have been made in the text to adapt it to the new British pharmacopœia and to make it representative of recent advances in our materia medica. There is no reference, however, to those of our newer drugs which, though unofficinal, are well deserving of mention in a book of this character.

The discussion of the various remedies is admirably divided; *e. g.*, in the separate treatment of "immediate local actions," "actions on the blood and specific actions," "remote local actions," etc. We cannot bestow as much praise on the general grouping of the remedies. We believe that a change from the chemical and botanical classification to the more rational arrangement according to physiological effects would have marked a distinct improvement in the new edition over the first one. The adopted subdivision robs the work of much of its value as a reference for the physician, and fails to present the pharmacopœia in an impressive *therapeutic* review to the overtaxed memory of the student.

The text, however, is interesting, so far as that of a condensed hand-book on materia medica can be. Unessential details are omitted and salient facts are tersely and unequivocally presented. One of the most attractive features of the work is the interesting and scholarly division devoted to general (and we might add special) therapeutics.

ELECTROHEMOSTASIS IN OPERATIVE SURGERY. By ALEXANDER J. C. SKENE, M.D., LL.D., Professor of Gynecology in the Long Island College Hospital of Brooklyn, etc. New York: D. Appleton & Co., 1899.

THE author of this book has been an advocate of electric hemostasis in surgical operations since he first learned its usefulness. In the present work he presents an elaborate review of the subject including a description of the essential instrument and macroscopic and microscopic examinations of tissues burned with the electric cautery. It is this chapter which will most interest surgeons since it gives the *raison d'être* of this method of controlling bleeding in surgery. Dr. Skene shows that by means of the cautery the lumen of an artery becomes entirely obliterated; that after two hundred trials no secondary hemorrhage ensued; that an artery a quarter of an inch in thickness was reduced to about one-twelfth of an inch in thickness and that the tissues were rendered amorphous by the heat and pressure. The treatment of friable tissues which cannot be ligated, and the closure of canals lined with mucous membrane, and the sterilization of the parts as well, can be accomplished better by this means than any other. The author finds that pain is diminished by this method of hemostasis on account of the devitalization of the nerves severed. The remainder of the book is taken up with chapters on the use of the electric cautery for hemostatic purposes in the various branches of surgery, and two chapters on aseptic and antiseptic surgery. As a pioneer in this field of surgical technic the book is interesting and deserves careful reading by every man engaged in surgical work.

THERAPEUTIC HINTS.

The Addition of Chloroform to Alcoholic Solutions of Bromoform renders them miscible with water in any proportion, whereas the bromoform would otherwise be precipitated by the water. For instance:

℞	Bromoformi	*m.* xviii
	Chloroformi	*m.* xii
	Rum q. s. ad.	℥ ii.

Application to a Cancerous Cervix.—

℞	Orthoformi	gr. xv
	Ac. arseniosi	gr. iss
	Spiritus, Aquæ aa	ʒ ii.

M. Sig. Saturate a tampon with this solution and apply to cervix.

For Pertussis.—The following is the formula prescribed by MORITZ COHN of Hamburg from which he claims excellent results:

℞	Bromoformi	*m.* iii–xii
	Absolute alcohol	*m.* x–xl
	Pulv. acaciæ	gr. lxxx–ʒ v
	Syr. aurantii	℥ ss
	Aq. dest. q. s. ad.	℥ iv.

Dissolve the bromoform in the alcohol, triturate carefully with the acacia and gradually add the syrup and water. Sig. One to two teaspoonfuls every two hours. Keep in a dark bottle and shake well before using.

For Infectious Infantile Diarrhea.—

℞	Laudanum of Sydenham	gtt. ½
	Ac. hydrochlorici dil.	gtt. ii
	Sugar water	ʒ v.

M. Sig. Give at one dose. Repeat several times a day if indicated.

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ORIGINAL ARTICLES.

THE OCULAR AND ORBITAL SYMPTOMS OF LESIONS OF THE FRONTAL SINUS.[1]

BY ROBERT SATTLER, M.D.,
OF CINCINNATI, OHIO.

SUGGESTIONS drawn from carefully conducted clinical studies, with the disclosures of surgical experience, have led to and clearly defined a rational and eminently practical surgery for these obscure lesions of the sinuses of the frontal bone. The pathologic processes which invade these pneumatic cavities are better understood than formerly. The acute ones disclose their nature with almost certainty of diagnosis. Their clinical characteristics and the indications for surgical intervention can, in exceptional cases only, be misinterpreted. Chronic lesions are of far more frequent occurrence. Their course is marked, almost without exception, by interminable chronicity, with clinical attendants so meager or uncertain that error in diagnosis is frequent. The reasons for this are evident. Those which result from transplantation of pyogenic products from the adjacent nasal cavity — which are again the most frequent—and those as well which are due to direct extension along the mucous lining or bony walls from intranasal disease along the connecting channel or frontal canal, occur with especial frequency among male adults. These air spaces have even during early adult life reached spacious dimensions and their bony encasement is fortified as age advances. The low grade of inflammatory activity which commonly attends such processes and the compensatory hypertrophy or sclerosis of the walls which is thereby excited combine to decree for the incarceration of pyogenic matter, granulation tissue; inspissated pus, etc., an almost latent course with uncertain or absent clinical features.

These are among the causes why recognition of chronic lesions is wellnigh impossible during the early stages or until more tangible evidence of perforation of the outer wall with undermining of the periosteum and other symptoms point to their real nature. Again, in consequence of the constant choking with granulation tissue or other pathological products, the cavity is abnormally distended and immense rarefaction, with atrophy of the bony walls, as well as of the mucous lining, results, accompanied by partial absorption or desiccation of their contents. This larger cavity, with thinner walls, is completely shut off from all communication with the nasal cavity through the infundibulum or fronto-nasal canal. Disturbance of its physiological purpose follows and occasions constant distress, with often, also, violent explosions of neuralgic pain over this locality. It may also happen that increase of thickness or hyperostosis of the external walls results, especially as a final expression of a chronic, latent, lesion. Not infrequently is this attended by violent outbursts of neuralgic pain without local or inflammatory symptoms. In such cases, surgery, which may suggest itself and be practised as an empirical measure for diagnostic means, or in search of pus, even in the absence of any positive assurance of its presence, reveals only bone hypertrophy. Why this should cause, in some cases, violent suffering and in others none, is as unexplained as are the vagaries of other similar lesions of the temporal bone. We also meet with the same negative expression in other secondary lesions. The growth of osteophites or exostoses within the sinus with the latter enormously distended, affords only another illustration. With the exception of the increasing deformity, pain or other subjective discomfort remains absent.

It has already been stated that it is during early and middle adult life that the original sinus lesion, or the final expression of such lesion, is met with. The discovery of the real character of such resulting or secondary lesion, however, is possible only after the surgical intervention which becomes expedient or necessary reveals it.

This does not imply that lesions with a similar latent course are not met with also during the earlier years of life. Experience has taught me, especially my earlier observations, that the cases of so-called periorbitis and unquestionably also, a goodly share of the cases of caries of the margin of the orbit, in strumous or rachitic children, are really expressions of frontal sinus disease. The earlier stages of the lesion are latent, as in the older subjects, but owing to the thinness of the bony enclosures and the small size of the cavity perforation occurs more readily and almost as a necessary sequence.

The temporal angle of the sinus is a not infrequent location for perforation by the retained contents, and a trail of burrowing pus follows of nec-

[1] Read before the Ohio State Medical Society, at Springfield, Ohio, May 12, 1899.

essity the contour of the orbital margin and its outlet or sinus eventually opens near the outer canthus. This remote location, so far removed from the original starting point, is not at at once associated with a sinus lesion. It is a disclosure of surgery and a noteworthy triumph as well, which has proved the truth of this statement, and has enabled us to treat these obstinate cases with far greater satisfaction and the avoidance of unsightly deformity.

Some fifteen years ago I began a systematic and careful study of all cases belonging to this category. The first attempts of exploratory surgery in chronic cases with latent course, in which a retention of pus or other inflammatory products was surmised, were made with old-fashioned drills and trephines. Brief mention of one of the first cases is made, because of its instructive lesson:

A lad, aged twelve years, had suffered for years from frontal and general headache. For some time his parents had noticed an increasing prominence of the region over the frontal sinuses and inner, upper margin of the orbit. Nasopharyngeal catarrh was present but there were no unusual features. The customary local treatment had been tried ineffectually for a long time, without relief of the headache. There was no tenderness over the frontal sinus region nor redness or swelling of the soft parts. Unmistakable bone enlargement, however, was present. Ocular symptoms there were none, except epiphora, which was neither persistent nor annoying. In spite of these negative symptoms the sinus was opened with a drill, which operation, owing to the thickness of the bone was both difficult and tedious. Extensive hyperostosis was found and the sinus was full of pus. Subsequently the other sinus was opened with similar disclosures. Recovery ensued, with complete subsidence of pain.

The point which this brief recital emphasizes is that exploratory surgery, aided and reinforced by modern surgical methods with the use of less cumbersome instruments, affords us an opportunity for the practice of rational and successful surgery.

Taking up, briefly, the especial purpose of this paper, the ocular and orbital symptoms of the more uncommon chronic lesions, it must again be stated that, for an indefinite period, such lesions or their final expressions may run an entirely latent course both as far as local and constitutional disturbances are concerned.

Orbital Symptoms.—Among the first tangible evidences are diffused and localized tenderness, without redness or swelling over the affected region. This is generally unilateral as it is rare to find both cavities affected at the same time. This gives way to transitory, painful swelling of the periosteum and bone, often with redness and swelling of the overlying soft parts. These symptoms come and go, lasting generally several days or weeks. Headache now may become general. At the same time there will be observed a characteristic indication, and this is a change of contour of the inner, upper, and in some cases, even of the inferior margin of the orbit. If the lesion is unilateral, and it generally is, the asymmetry of this important part of the face and the change of physiognomy which it entails, point with significance to an existing sinus lesion. If tenderness on pressure or percussion is present, it is even more suggestive of this view.

The most careful rhinoscopic examination fails to disclose more than a chronic catarrhal process which is known to have been present and to which, also, the symptoms due to the sinus complication are assigned. In some cases even, the symptoms of an existing nasal lesion are in abeyance during the progress of the sinus lesion.

If the grade of inflammatory activity remains low, it may happen that a chronic empyema may undergo partial absorption or inspissation and terminate in a contraction of the cavity with increased thickening of the walls; in other words, hyperostosis results. It may also happen at this stage or with the presence of the symptoms referred to, that a spontaneous evacuation through the frontonasal canal into the nose, effects in some cases temporary arrest and in a few, complete termination of the sinus lesion. In exceptional cases, among those first mentioned, in which hyperostosis of the walls takes place and recovery without external perforation results, there comes about as a remote sequence, neuralgic seizures[1] of extraordinary severity and duration. A more frequent result, however, is the yielding of the walls at one or another point. In children this is not infrequently the temporal angle of the sinus, but with them and with adults it is more often the lateral or orbital wall at points near, above, or even below the inner canthus of the eye.

The periorbita in this locality is firmly attached to

[1] This patient, a man aged thirty-six years, had suffered from what he and his physician supposed was intense paroxysms of supra-orbital neuralgia of the right side. Years before he had contracted syphilis but no manifestations of late syphilis were observed. Nevertheless, he had received the most thorough antispecific treatment for several years. The entire frontal region near the margin of the orbit, which was thickened, was the seat of an extensive and marked bone hypertrophy. This swelling was smooth except at the under surface, near the free margin of the orbit where irregularities were discovered. He suffered constantly from pain with exacerbations of more violent seizures at short intervals. Drooping of the upper lid but neither exophthalmos nor lateral displacement of the eyes was present. An exploratory operation discovered most extensive thickening of the bone which was hard and brittle and not vascular. Several fistulous openings in the bone, near the upper margin of the orbit, were discovered, but there was no pus or offensive discharge. The sinus was fully opened. The cavity was small and partially filled with caseated pus. The entire region was ablated, and recovery, though tedious, resulted with complete subsidence of the intense neuralgic seizures.

the bone and is furthermore reinforced by the orbital fasciæ and medial ligament and this explains the resistance which is offered to the burrowing pus. For this reason the dissecting trail is often deflected and pushes its destructive work lower down while its most frequent outlet is under and at the outer or temporal border of the tear-sac. Not infrequently several fistulous openings discharging the contents of the sinus frontalis appear along the orbital margin near the middle or even its outer division.

They may also undermine the periosteum tear-sac, erode the os unguis and superior maxillary of this region and without external perforation discharge their contents into the nose. In particular do we observe this in broken-down syphilitic subjects. In such cases, both internal and external perforation is likely to take place.

Ocular Symptoms. — The earliest ocular manifestations are observed on the part of the eyelids. A serous infiltration of the loose cellular fasciæ of the roof of the orbit dependent upon and associated with the transitory exacerbations of the insidious sinus lesion may interfere with the action of the levator muscle of the upper lid, and also with the superior rectus muscle. Drooping of the upper lid and slight restriction of motion upwards is often observed. Proptosis, due to the same cause, and lateral downward displacement of the globe may also be present, even at this early period. To these symptoms are added an edema of the inner third of the upper lid with dusky discoloration. This, in some cases, is so much like the inflammatory edema and tissue infiltration which attends a suppurating chalazion that it is not infrequently mistaken for this. On the part of the conjunctiva, especially the retrotarsal and ocular divisions, engorgement of the venous channels and frequently chemosis are observed. This is not of inflammatory origin, but is due to obstruction of the outflow of the venous channels. In some cases the upper fornix at this point is evulsed. Pus-trails may cause this and discharge their contents into the conjunctival sac.

The symptom of proptopsis is a variable one and is not in conspicuous evidence even in pronounced cases of uncomplicated frontal sinus disease. In those cases in which a necrosing syphilitic lesion invades the ethmoidal cells and frontal sinus jointly, or all the pneumatic cavities are involved, this is almost uniformly present.

A feature of the exophthalmos accompanying sinus frontalis lesions deserves mention. In common with similar processes of the ethmoidal cells it is subject to great variation. At times it is present and again it disappears entirely. Only in most exceptional cases, in which perforation under the periorbita takes place behind the margo orbitalis and insertion of the orbital fasciæ and medial ligament, and the dissecting trails push backward toward the apex of the orbit, is dislocation of the eye a necessary effect and exophthalmos a conspicuous symptom.

To this rather incomplete description of the clinical features a brief account of a typical case is added in order that it may supplement what may have been omitted:

The patient, a lad aged twelve, had, for several months, complained of general headache, which did not yield to treatment, general and local, and faithfully tried. His parents were healthy, the boy was well developed and free from any evidence which might suggest constitutional disease. Several weeks before he was brought to me he was taken to the family physician who attempted to open what he supposed to be an ordinary hordeolum near the inner border of the upper lid. When he first came to me the asymmetry between the frontal regions of the two sides was unmistakable. The entire inner half of the right upper lid was infiltrated and the skin dusky in color. The movements of the lid were restricted and the palpebral fissure distorted and contracted. The superficial veins of the conjunctiva were tortuous and prominent. Proptopsis, with slight lateral displacement was present, but neither diplopia nor restriction of ocular movements was noted. Functional examination of the eye was perfect and nothing noteworthy, on ophthalmoscopic examination, was observed. The entire inner and upper margin of the right orbit was tender on palpation, but redness was confined to the tissues of the lids. At the point under the tear-sac which appeared more prominent as compared with the other or more healthy side, tenderness on the slightest pressure was complained of. Over the sinus itself, however, it required a much firmer pressure to excite pain. Fever and lassitude, which had steadily increased, were constant. Surgical intervention was practised without delay. It brought unlooked for revelations. The sinus was uncommonly roomy considering the age of the patient, and was crowded with granulation tissue and pus. On the under orbital surface, bone perforation had occurred in several places. The pericranium was extensively elevated and a large trail was discovered, leading under the tear-sac and side of the nose, which corresponded to the point of greatest external tenderness. Recovery was tedious but unattended by complications.

The surgical methods which enable us to explore the sinus frontalis from without for diagnosis and successful treatment are, at present, so satisfactory that few surgeons attempt drainage or exploration

through the intranasal opening. I have long since abandoned this method as uncertain and unsatisfactory, and resort exclusively to the external one with chisel and mallet. Trephines and dental drills are preferred by some surgeons, but the simplicity and ease of manipulation of the method and instruments referred to justly entitle them, in my opinion, to the preference.

SOME SALIENT POINTS IN THE TREATMENT OF HIP-DISEASE.[1]

By B. E. McKENZIE, M.D.,
OF TORONTO, CANADA.

Not only to the orthopedic surgeon but to the general practitioner and the laity is hip-disease a subject of perennial interest. Though this affection has been presented again and again in all its aspects, yet there may be some advantage in setting forth the results of individual study. In doing so the indulgence of the Association is craved if the writer should seem somewhat dogmatic in the assertion of his own opinions. Through a clear-cut statement of his own views his paper will the better elicit the valuable results of the large experience of the members of this Association.

The question may be regarded as settled that when an early diagnosis is made effective mechanical and constitutional treatment is always to be preferred to operative measures. There are few who to-day would adhere to the opinions advocated by Barker in the Hunterian Lectures of 1887. One is scarcely surprised that stimulated by some important advances of nearly twenty years ago surgeons went to extremes in operative work. The most important of these advances were the practice of asepticism and the discovery of the bacillus tuberculosis. Strong claims were made in favor of early operation resulting in speedy cure. Everywhere we find surgeons who believed and who acted on the belief that as soon as a diagnosis was made excision of the joint should be performed, thereby removing the femoral head and all infected tissue, cutting short the course of the disease, forgetting for the moment that they were rarely able to eradicate all the infected tissues. It may candidly be said that all these fair promises held out by distinctively operative treatment were not realized.

Although these patients were sometimes sent home a month or less after the operation, with the wound healed, this seeming to be a most satisfactory and gratifying result calculated to beget a hope that by operative measures alone these subjects could be cured in a short time, yet further observation often showed a recurrence of the disease. Though the greatest precautions were taken, yet untoward results, even death, sometimes followed as the direct consequence of the operation. Even in the cases in which the most favorable course possible was taken it was found that excision of the femoral head in itself was the cause of no slight disability, and in a considerable portion of the cases the focus of disease at the head was not the only one, and subsequently tuberculosis manifested itself elsewhere. There are serious hindrances to the successful accomplishment of the complete eradication of the disease. One of the epiphyses, that most frequently invaded primarily, is so situated as to be entirely within the capsule. Its removal calls for an excision, which in all cases greatly invalidates the joint function, permitting the limb to slide upward in its relation to the pelvis, thus becoming insecure for the purpose of weight bearing. If the primary focus be in the floor of the acetabulum, as it is in a considerable proportion of cases, it cannot be reached without complete excision. On the other hand, if the primary focus be found at an early date at either of the trochanters or in the synovial membrane there is a better prospect of its removal without serious interference with the integrity of the joint. Such definiteness of diagnosis is seldom possible. An early diagnosis of the presence of disease can be made, but to determine the exact location of the primary focus is not possible.

Even operators of the most extensive experience, such as Volkmann, and George A. Wright have said that "if the case be taken in time the best results are obtained by rest." Mikulicz regularly treats his patients with joint tuberculosis by iodoform injection without incision. Considering all the evidence and giving due weight to the facts of experience, the writer is of the opinion that operative interference at the hip is seldom justifiable before the breaking down of tissue may be diagnosed.

The loss of the femoral head, whether through operation or the destructive process of disease, must be regarded as one of the most undesirable results. The shaft of the femur slides upward, and marked shortening occurs; but what is more serious, the end of the femur does not always secure firm anchorage, and when the weight of the body comes upon the limb the adjustment between the femur and the pelvis is found ill-suited to weight-bearing, so that the lack of fixation causes a very marked limp, the patient soon growing weary, and the pressure of the femur upward into tissues not designed to resist such intrusion causes pain. Sometimes the upper end of the femur finds an anchorage and much of the disability is thereby overcome. Shortening of

[1] Read at the thirteenth annual meeting of the American Orthopedic Association, held at New York, May 31, and June 1 and 2, 1899.

the limb, if it be less than two inches, need not in itself be considered a serious matter.

If the position here taken be admitted, that early operative intervention is not to be commended, then it is a most important question to determine what constitutes efficient mechanical treatment. Before attempting to answer this question it will be well to consider what are the elements which mark the successful result and what are the final conditions that constitute disability.

1. The most important is the subsidence of the disease, either through the efforts of Nature aided by art to completely eradicate it or at least to encapsulate the virus and imprison it so successfully as to prevent the manifestations of symptoms of its presence.

2. Motion is desirable if the head of the femur can be preserved and kept in the acetabulum; motion, however, is not the most desirable element in securing a successful result. Firm ankylosis, with the limb slightly abducted and fixed, is not a serious hindrance to the extensive use of the limb.

3. As some shortening is likely to result, a slight amount of abduction is desirable as the apparent shortening is thereby made less. Shortening of less than two inches does not in itself constitute serious disability as it is easily made up by a cork-soled boot.

4. If either disease or operative interference has destroyed the integrity of the joint a movable connection between the femur and the pelvis is a source of weakness and pain.

5. Adduction in any amount is always undesirable. Abduction to a greater amount than a few degrees is a cause of needless deformity. Flexion of more than fifteen or twenty degrees produces deformity and interferes with walking.

6. Atrophy of the limb is likely to cause life-long disability.

The mechanical treatment which implies that a patient shall be confined to bed cannot be considered an ideal treatment, as modern advances have conclusively shown that one of the most important considerations in all forms of tuberculosis is found in free exposure to fresh air and direct sunshine. The apparatus which shall be ideal must be a portable one to which the patient is definitely fixed. In the opinion of the writer, no apparatus hitherto described has been so successful and so completely meets the indications as the well-known Thomas hip-splint and its modifications. The posterior bar should be accurately adjusted. An ill-fitting splint is not only uncomfortable but fails to act efficiently as a mechanical appliance. Before the thoracic and pelvic bands and other parts are definitely attached it should be accurately molded to fit snugly to the body and limb of the patient. Care should be taken that sufficient bend is made at the knee to permit slight flexion. Following years of hip treatment by mechanical appliances it is not uncommon to find hyperextension of the knee and relaxation of its ligaments which causes considerable disability. This unfortunate result is as unnecessary as it is undesirable. In securing fixation of the limb to the splint it is not necessary to bandage the whole limb. Bandaging which confines the entire limb exsanguinates unduly and when long continued produces atrophy which is very detrimental to future efficiency. Similarly, the use of the ordinary adhesive plaster and its accompanying bandage is not to be commended. Extension by means of buckles sewn on the side of the boot, or a well-fitting gaiter, is better.

When the splint is employed simply to secure fixation alone it does not accomplish its best results. Traction is just as important as fixation. The constant tendency in the later stages is toward adduction of the limb and tilting of the pelvis upward on the affected side. If the splint be so constructed that traction can be conveniently made, drawing the limb downward while the pelvis is secured by straps producing counter-extension, not only is spasm of the muscles overcome, but the adduction which proves so pernicious may be prevented. In order to accomplish the latter purpose successfully, provision should be made for making the chief counter-extension on the sound side. A splint which produces counter-extension only on the side of the affected limb acts at a mechanical disadvantage and in spite of traction and fixation needless and injurious deformity is likely to result. If, however, through inattention to this matter there is considerable adduction, it may be better to place the patient in bed for a few weeks so as to overcome the deformity by traction produced by the aid of the weight and pulley. Afterward, however, this position can be maintained by the modified Thomas splint.

Traction which is made in the manner just described is effectual not only in preventing adduction and in overcoming muscular spasm, but it prevents needless attrition of the head of the femur against the acetabulum, and becomes a successful means of preventing actual and needless shortening.

A successful splint should thus enable us (1) to secure fixation for the joint, and (2) traction and abduction of the limb. In my earlier years I thought that a third purpose should be served, that a splint should be a crutch. Further observation has convinced me that the encouragement of this idea is likely to be detrimental. The effort to use

the splint as a crutch interferes with that completeness of rest from function of the diseased part which it is desirable to have in order to secure the best results.

A valuable and carefully prepared scientific paper was presented to this Association a few years ago by one of its members, and a conclusion reached adverse to the use of iodoform injections in the treatment of tubercular joint affections. It was a paper so carefully prepared, so full of detail, and so accurate in conclusion that I acknowledge myself greatly influenced by it. Notwithstanding that fact I am unable to withstand the weight of evidence that years of experience and observation have served to accumulate, that iodoform, however employed, when brought into contact with tubercular tissue is a most valuable adjunct to our means of treatment. The best results of my own experience in the use of this drug coincide very closely with those set forth by Dr. Henle of Breslau as the result of the work done in the Breslau clinic in the service of Dr. Mikulicz. Whether injected into the neighborhood of joints after incision and after evidence of the breaking down of tissue, or whether brought into contact with the tissue after excision made for the purpose of removing broken-down tissue, the writer has observed only the most favorable results and has reached the conclusion that it is one of the most valuable aids in treating tubercular joint disease.

The teaching of the last few years should not be forgotten or lightly passed over by the surgeon who is called upon to treat tubercular joints. Pulmonary tuberculosis is to-day considered amenable to treatment in a large percentage of cases. The most important points in securing efficient treatment in this domain are: (1) early diagnosis; (2) free and constant exposure to pure air; (3) as much direct sunshine as it is possible to obtain; (4) high altitudes and dry air; (5) good nutrition; (6) rest for the affected parts; (7) measures of prophylaxis. Not only in the sphere of medicine, but in that of surgery, evidence is accumulating to show more and more clearly that it is by attention to the general disease which is present that we must look for the best results.

If the amount of inflammatory product be more than Nature can successfully dispose of by absorption, and if the healthy tissue does not become successfully walled off from the diseased structures and the virus continues to extend the area of its noxious influence so that breaking down occurs, then the débris should be removed by operation, the surrounding tissue being wounded as little as possible, trusting largely to natural processes aided by drainage, cleanliness in nursing, good diet, abundant fresh air, plentiful exposure to direct sunlight and rest for the part to put a stop to the further ravages of the disease and to secure cicatrization.

Of the cases of hip-disease that have come directly under my care during ten years, and which have been in the main treated in accordance with the teaching of this paper, I have been able to trace and obtain fairly reliable records in 70 cases. Of this number 9 patients are dead. One, a boy of sixteen, had Pott's disease and hip-disease and died of general tuberculosis; one, a girl of fourteen, had Pott's disease and hip disease and died of general tuberculosis; one, a girl of fifteen, had discharging sinuses for a long time and died of amyloid disease; one, a girl of fourteen, had pulmonary tuberculosis with cavities when first seen; one man, aged thirty-four years, died two years after recovery. I have not been able to obtain a reliable account of his last illness, but believe it to have been tubercular meningitis. One boy of fifteen died of typhoid fever two years after recovery from hip-disease; one boy of eight died of tubercular meningitis, though for several months previously he seemed to be convalescing satisfactorily. One girl of sixteen had general tuberculosis with dropsy: one girl of fourteen died a few days ago of tubercular meningitis. This patient had come under my care early in the course of the disease and had seemed to make the most gratifying progress toward recovery until about two weeks ago when her fatal illness appeared. With the exception of the last patient all had suppurated abundantly and six of the number had manifested signs of the disease for a long time without having any efficient treatment.

In 36 of the 70 cases suppuration occurred. Of these, 21 patients made a good recovery according to the standard of good recovery set up in this paper. Of these, 3 have recovered without a limp in walking. Of the whole number of patients 5 have recovered without limp and 5 others have but a slight limp. The oldest patient was fifty eight years of age, and 7 were more than twenty years of age, 2 being about forty, and 2 more than fifty.

Permit me briefly to summarize:

1. Hip-disease is a local manifestation of a constitutional disease.

2. Early operative treatment is seldom justifiable.

3. When softening can be determined the surgeon should operate and obey indications, observing all care not to needlessly injure the mechanical integrity of the joint.

4. In the subsequent management of the wound asepticism and antisepticism must be carefully observed.

5. From the earliest moment efficient protection for the joint should be secured and constantly maintained by a well-fitting mechanical appliance.

6. A proper splint should fulfil two indications, *i.e.*, secure rest for the affected joint and prevent deformity. No effort should be made to employ the splint as a crutch; ordinary crutches should be used. In the adjustment of the splint the knee should be slightly flexed.

7. Constitutional treatment is indicated as in other tubercular affections. Great emphasis should be laid on obtaining the freest exposure to direct sunshine and fresh air. Free use of iodoform is a valuable adjunct.

8. After excision a perfect recovery never follows because the mechanical integrity of the joint is not preserved.

9. Following mechanical and constitutional treatment complete restoration of function is sometimes obtained.

10. Even when breaking down of tissue occurs which necessitates incision there is sometimes a perfect restoration and frequently a highly useful return of the joint function.

VAGINAL COLPOTOMY IN THE TREATMENT OF PELVIC DISEASE.[1]

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When Langenbeck, early in the present century, removed methodically and successfully the carcinomatous uterus through the vaginal canal the scientific and surgical treatment of pelvic disease through the vagina was inaugurated. Not until the memorable discussion which occurred in the Paris Surgical Society in 1888 and was participated in by Pean, Terrier, Richelot, Verneuil, Bouilly, and Segond did vaginal section, however, receive the impetus which resulted in placing it among the recognized and accomplished surgical procedures. To the efforts of Pean and the French school, supplemented by their painstaking and methodical brothers, the German surgeons, is due the credit of the perfected technic of modern vaginal hysterectomy, an operation which in certain selected cases is deservedly popular, threatening at one time to become the fashion. Emmet, in his vaginal puncture and drainage, suggested, while Landau abroad and Henrotin in this country, perfected and popularized the modern vaginal section for pelvic suppuration. The present tendency is to a greater conservatism in the employment of vaginal section, a method which (always having in mind its special adaptability) will no doubt shortly take a stable and ascertained place as a legitimate and valuable surgical procedure.

The range of usefulness of vaginal section in the treatment of pelvic disease while large is by no means unrestricted and, notwithstanding as a method it has advanced so rapidly in favor with the best and most conscientious of our profession, we cannot be too critical in our estimate or too general in our discussion of a comparatively new operation, however apparently good, as by these means possible errors or premature conclusions are eliminated and permanency of position for the procedure procured. The revolution of opinion as to the value of vaginal section in the treatment of pelvic abscess might well be illustrated by the recitation of a personal experience of the writer eight years ago, in which the life of a patient was lost, not as a result of the operation, which was extremely simple, but as the result of its incompleteness, subsequent examination showing that the entire pus-producing tract was not drained, or what is more probable, that infected or involved areas breaking down after operation were not drained. A subsequent consultation with two distinguished gynecologists, who at the present time are generally recognized as special exponents of the vaginal method of operation in New York and Chicago, respectively, while securing for the operator a justification of the procedure, was faint in its endorsement of the method employed. This case at once illustrates one of the chief disadvantages of vaginal section in pus cases, *viz.*, our inability to judge always of the completeness of the procedure, therefore, the possibility of leaving undrained pus accumulations in multilocular abscesses or suppurating multilocular cysts. Admitting the force of this objection, the disadvantage of the tactile sense as a guide in these operations, and noncurative effects in a certain number, there yet remains an enormous balance in favor of vaginal operation, than which none has yielded the brilliant results obtained by incision and drainage of large infective or pus accumulations in the tubes, interligamentary spaces, cellular tissue, or peritoneum. Whether the collection be the result of gonorrheal or post-partum infection, ectopic gestation (provided active hemorrhage is not going on), or what not, the indication here is the same as obtains in dealing with pus collections in the practice of general surgery, to drain, and the simplest and most efficient means of accomplishing the object is that which most commends itself.

That the vaginal operator does this would seem easy of demonstration, and the operation is easier done.

[1] Read before the Jefferson County (N. Y.) Medical Society, April 11, 1899.

There is no doubt that the vaginal as compared with the suprapubic operator is frequently called upon to exercise greater nicety of judgment and manipulative dexterity, as normal anatomical relations are more disturbed by the traction sometimes necessary in vaginal operations, and excepting in those cases in which circumstances demand immediate intervention, the operator should be fully competent and prepared to do a suprapubic section should hemorrhage or other unforseen condition present to interfere with the completion of the operation through the vagina. The fact remains, however, that the average vaginal incision for pus is a comparatively simple one. The tyro might with impunity and propriety, as a temporizing measure or in an emergency, incise an extraperitoneal pelvic abscess through the vagina, whose intervention with the same condition through the suprapubic incision would be considered little less than homicidal. Through the vagina the abscess is incised at its base. Observation teaches that in most pyosalpinx cases the abscess breaks, if at at all, when separating adhesions in its lower posterior aspect, a most unfavorable situation to deal with in suprapubic celiotomy, yet the most advantageous point possible when the sac is attacked from below. Drainage is dependent and the septic discharge is through tissues whose absorbents are plugged by inflammatory exudate or protected by auto-antitoxic products. The danger of further infection is thus reduced to a minimum, a consideration of vital importance when contemplating the hazard of infection incidental to the up-hill capillary abdominal drainage through long, clean tracts of peritoneum and muscular and connective tissue. Operations of this class are usually completed without invading the peritoneum. They are possible in the desperately sick, subjects in whom suprapubic section would not be admissible or necessarily fatal at the time, and who, if necessary, may be submitted to more radical or complete surgical methods at some subsequent time. The mortality is greatly reduced, falling as it does in these cases below five per cent., a marked contrast to the mortality in the suprapubic operation, which may be conservatively estimated at about twenty per cent. in the work of our representative gynecologists. Four times within the past three months the writer has been able to save life through vaginal section and drainage of large septic collections in cases in which by reason of the extreme sepsis and exhaustion suprapubic section must have resulted disastrously.

In the consideration of the preparation of the patient for vaginal section the recent bacteriologic investigations made for the purpose of demonstrating the natural aseptic or antiseptic quality of the genito urinary tract of the female should be excluded or ignored, in view of the fact that about all the patients coming under observation have such departures from normal conditions as to make such propositions untenable. Therefore it is desirable, if possible, to prepare the patient a day or two prior to operation by thoroughly scrubbing the vagina and adjacent parts with green soap and water, frequently irrigating meantime with antiseptic solutions, mercuric bichlorid or lysol, preferably, because of their active destructive effect on germ-life. The final sterilization may be left to the operator or assistant after the patient is brought to the operating table and the anesthetic given, when, with the patient in the dorsal position, the preliminary curettage is done, the uterine cavity thoroughly irrigated, perhaps cauterized and packed with antiseptic gauze, the vagina again thoroughly scrubbed with soap and water and freely douched with antiseptic solution, the parts are ready for invasion.

The technic of vaginal section should be varied to meet the special indications in a given case. The fact that one operator meets these indications in the greatest number of tubal troubles by an incision into the vesico uterine space, or begins his incision here for vaginal hysterectomy, and controls hemorrhage by the use of clamps; and that another controls the situation presenting to the best advantage by cautery incision or otherwise into the posterior cul-de-sac, or prolongs it from this point, ligating the bleeding vessels instead, is no argument against the technic of yet another, who so modifies his incision and hemostasis as to accomplish the object in view with the greatest ease and simplicity.

As a general proposition we believe that vessels should be isolated and ligated as much as possible as the steps of the operation are taken. By this means we are assured a process of tissue atrophy rather than slough, reducing to a minimum the danger of secondary hemorrhage from separation of slough or disarrangement of clamps or the occlusion of the ureters and the prolonged fetid septic discharge, either of which conditions may obtain as the result of crushing considerable amounts of tissue *en masse*.

The performance of the operation of vaginal section is simple. Seizing the cervix with a Colin or other traction forceps, having due regard for the rectum, bladder, uterus, and larger vessels, the vagina is made tense and incised well outside its reflection on the cervix and nearest the point of election, whether in the anterior or posterior fornix. Dissection with the finger is continued until the pus collection is reached, when a blunt scissors or for-

ceps is pushed well inside the abscess cavity, opened to the width desired, and withdrawn. With the finger clots, exudates, exfolia, or necrotic masses are removed and the cavity is wiped with antiseptic compresses, not washed out (as by so doing septic material might find its way through a possible opening in the peritoneum), after which the cavity is lightly packed with gauze, or a tube wound with gauze introduced, the latter method securing better drainage and patency of the opening.

An amplification of these incisions laterally through the posterior cul-de-sac or longitudinally along the roof of the vagina in front, always having in mind possible injury to the ureters or bladder, affords a good opportunity for an intraperitoneal examination of the tubes and ovaries, which may be relieved of adhesions, drawn down and inspected, and replaced if healthy, or resected or excised if diseased; serous and septic accumulations in the adnexa, if too large to deliver through the opening, may be tapped and excised. Pedunculated myomata of small size may be ligated and excised, or if sessile, enucleated, the peritoneum being replaced and sutured in position. A study of the advantages of this method of management will, we believe, materially diminish the indications for suprapubic hysterosalpingo-oophrectomy, and other mutilating operations upon the abdominal wall, uterus, and adnexa.

Combined operations involving the vaginal vault, of the sacral and par-sacral order, present special dangers in the liability of injury to the ureters, rectal fistula, shock, and sepsis, not compensated for by the advantages obtained or required except in cases of advanced cancer, which are as a rule unsuited for any operation. A method of rectal excision through the vagina for cancer is described and warmly advocated by Gersuny, Moeller, and Rehn. The sphincter is incised and reunited, affording, it is said, a most excellent exposure of the operative field. Like most other operations proposed for excision of the rectum the immediate results are satisfactory, but the ultimate outcome is disappointing. Any procedure, however, which offers a simplification of method in operations for malignant rectal disease is entitled to the most serious and careful consideration.

In advocating the propriety of employing the vaginal route, and the operations which naturally follow for fixation or suspension of the prolapsed or retroverted uterus, we are conscious of opening up a broad subject. There is little opportunity, however, for contention on the part of the advocates of suprapubic operations in these cases, as the same objection —dystocia—obtains in a certain percentage of all. Any operation having for its object the rectification of a uterine displacement must be, in some respects, unsatisfactory, as it cannot be anatomical. In an examination of the literature of the subject from the time when Dührssen and Mackenrodt first published their method of vaginal fixation of the uterus it is apparent that practically all of the unfavorable results reported in the many modifications proposed are in cases in which abdominal or vaginal fixations, as distinguished from suspension operations, have been done. It is fair to assume that the difficulties attending parturition after either operation have been exaggerated and that we are justified in expecting a spontaneous and uncomplicated delivery in such patients as have been operated upon after the later method of Wertheim, or some one of its modifications. Whether the round ligaments have their slack taken up by an approximation of the ligaments of both sides, or are shortened by taking up or cutting out a loop is of minor importance, so that their supportive quality is retained and their functions restored. The method of Wertheim is as follows: The vesico-uterine pouch is incised in the usual manner. The uterus is anteverted, the fundus made to present at the opening (perimetric, intestinal, and omental adhesions being divided, if necessary, with the Paquelin cautery, as advised by Dührssen and Kustner), the round ligament on each side is exposed, a loop one inch from its origin on each side is brought into the field of operation and sutured to the outer angle of the vesico-uterine fold of the peritoneum, or the corresponding angles of the vaginal wound if greater permanency is desired. The peritoneum and vagina are closed separately, the fixation sutures, if through the vaginal wall and unabsorbable, being removed after six weeks. Vineberg, who described this operation independently, with others, has reported uneventful parturitions after its performance. The immediate effects are good, the same elevation and anteversion being procured as after the Adams-Alexander procedure. The usual dislocation of the bladder is absent as the fundus does not rest upon that organ. As compared with the Alexander operation, there is no external scar, the ligaments are easily recognized and found at their origin, having sufficient resistance at this point to stand the strain imposed. It is claimed that greater manual skill is essential to the easy performance of the operation, an assertion to which we are loth to agree after having on several occasions witnessed the confusion of most dextrous and experienced operators who failed to find the round ligaments in the Alexander operation, or finding the ligaments, breaking them in handling because of extreme friability. The perfected vaginal suspension of Dührssen we regard incomparably superior to

ventrofixation or suspension, unless the latter be employed to meet special indications as adhesions, narrow vaginæ, etc., or incidentally in conjunction with other operations through the abdominal wall, and it seems to us abdominal section for the purpose only of suspensio-uteri is unwarrantable.

In a consideration of the question of hysterectomy for malignant disease, the importance of early diagnosis cannot be too much emphasized. If the uterus is freely movable, even though there be some involvement of the vaginal wall, good results are not impossible. If, however, the disease has extended well into the ligaments and the uterus is fixed, operation is contraindicated. There is a growing tendency in this country and abroad to the employment (especially in advanced cases, or those in which the corpus uteri is involved,) of the more radical vagino-abdominal operation of Clark of Johns Hopkins Hospital or Polk of New York. Clark's method is that of preliminary catheterization of the ureters and ligation of the uterine arteries at their origin, enabling the operator to cut the broad ligaments much shorter, at the same time removing the iliac and retroperitoneal glands which may be infected in these cases. The proposition of Polk for hemorrhagic control is even more radical, as he advocates the ligation of the anterior trunk of the internal iliac arteries. By this means a comparatively bloodless field of the floor of the pelvis and posterior vagina is secured, admitting of the more ready recognition and protection of the ureters at their entrance into the bladder, while facilitating the removal of all infective tissues, including the iliac, uterosacral, and retroperitoneal glands. The technical objections to these operations, however, are such (Clark, for example, stating that his operation consumes 2½ hours of time) that the average surgeon will be very loth to supplant the modern vaginal hysterectomy with its rapid execution, slight shock, freedom from restraint, quick recovery, and low mortality, with the tedious procedure proposed except in cases of advanced disease. Notwithstanding the great diversity of opinion among medical men, as to the disposition of malignant disease of the uterus to recur, the pathologic fact remains, as Winter has shown and Russell substantiated, that cancer of the cervix exhibits an inherent tendency to remain localized. Its indisposition to metastasis is shown by Russell, who in a study of the cases at Johns Hopkins Hospital, found that in all the cases of recurrence the growth was entirely local. A still more significant fact is that the records of ten inoperable cases at Johns Hopkins Hospital show that in only one instance was there involvement beyond the pelvis, or of the retroperitoneal glands. In his address before the German Congress of Surgery, Olshausen reviewed vaginal hysterectomy, its improvements in technic, and its results, showing that German statistics indicate such improvement in permanent results that it is now possible to assert that "there is hardly an organ in the body in which operations for the cure of cancer can be performed with such confident expectation of permanent good result as in the uterus."

The steps of the operation may be modified to suit the particular indications of the case. The patient, in the dorsal position, is brought to the edge of the table the legs supported by rests or assistants, and the posterior vaginal wall retracted with a Simon speculum, exposing the vault of the vagina and cervix, which last should be curetted, cauterized and packed or closed with three or four sutures, which may be used as the operation progresses as stays or guys in fixing the uterus; or the cervical canal may be clamped close with a strong Colin traction forceps with which the uterus is strongly drawn down to the vaginal outlet. The posterior cul-de-sac is then incised as far down on the cervix as admissible. Should the hemorrhage be free it is controlled at this point by a deeply set ligature placed in either angle, after which the incision is continued around the circumference of the cervix, the extent and density of which in different cases varies greatly. The cellular tissue is now pushed back with the finger from its attachment in front until the bladder is detached, which with the ureters, is carried well up out of harm's way. The rectum is further detached by the same stripping process up to the origin of the broad ligaments where the uterine arteries and their branches are caught up, tied, and cut away. With a volsellum forceps the fundus is now rotated forward, the tubes and ovaries on each side delivered, ligated, and excised, unless it should be deemed feasible to leave one ovary for its effect on general nutrition. The broad ligaments are then approximated with the anterior and posterior folds of the peritoneum with buried catgut suture, and the vaginal orifice closed in a similar manner, or antiseptic gauze is tucked lightly into the wound and left for several days, after which daily irrigation is sufficient to secure good reparative conditions. This general method may be applied to hysterectomy for uterine fibroma. Many operators, however, prefer to bisect the uterus in the course of its removal, a method of apparent advantage in the case of large growths.

The advantages claimed for vaginal as against abdominal section may be summarized as follows: (1) A preliminary or exploratory vaginal section is always warrantable. (2) Drainage when necessary is

more free and natural. (3) There is less danger of extending infection. (4) The limited peritoneal field exposed and handled reduces to a minimum pain, shock, and intestinal paralysis, frequent sequelæ of suprapubic abdominal section. (5) Post-operative nausea is lessened and movements of the patient are less constrained, contributing much to her comfort and general welfare. (6) Vaginal section may frequently be performed when the condition of the patient, especially in abscess cases, would interdict any other precedure. (7) The danger of hernia through the scar is practically *nil*. (8) Recovery is quicker. (9) The mortality, as calculated from all reported cases, is materially lessened.

The contraindications for the vaginal operation are: (1) An unusually small or septic vagina. (2) Such fixation of the uterus that it cannot be drawn down, or such enlargement of the organ that operations on the adnexa, when desired, cannot be carried out. (3) Evidences of tubercular degeneration or appendicular disease. (4) Carcinoma with involvement of the uterine ligaments or iliac glands. (5) Cases of pelvic hematocele with active non-circumscribed hemorrhage.

THE TREATMENT OF INCIPIENT LARYNGEAL CANCER.

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There is no subject in laryngology which is of greater importance than the treatment of incipient laryngeal cancer. As in other forms of malignant disease, the hope of success is in the inverse ratio of its duration. It is only in the early stages that a hope of a cure presents much encouragement, not only on account of the more favorable prognosis, but also because we can at that time avoid those radical operations which, while extirpating the disease, have so high a mortality and mutilate the patient to such a degree as to have made their justifiability a question of discussion. The treatment of malignant diseases of the larynx in general has received considerable attention in recent years, and great advances have undoubtedly been made in this respect. The classes of malignant tumors and their relative treatment have also been systematized, which materially assists in the scientific treatment of this formidable condition.

Whatever method be selected, the total eradication of all the diseased area presents the only hope of success. As this result can be best effected in the incipiency of the disease, surgical interference at this time is of the utmost importance. An operation, however, is dependent upon an early and correct diagnosis, but this unfortunately is frequently quite difficult in the incipiency of the disease. The majority of investigators admit the difficulty which frequently arises in making a correct histologic examination in these cases. The differential diagnosis between papilloma, pachydermia, tuberculosis, and syphilis, while easy in typical cases, often presents the gravest difficulty. The discussion of this subject before the recent meetings of the various laryngologic and surgical associations leaves no doubt that there is considerable room for improvement in this direction.

Another source of danger is that cancer may be localized for a considerable time in this region without giving rise to symptoms sufficiently urgent to compel the patient to seek medical advice. In many cases slight hoarseness is the only symptom present for many weeks. This shows the importance of using the laryngoscope in such cases, as persistent hoarseness in persons of advanced age should always be regarded with suspicion and carefully investigated.

The study of the treatment of malignant disease of the larynx has been greatly facilitated by a number of recent writers who have carefully investigated this subject. Among these are Mr. Watson Cheyne, who published the Lettsomian lectures: Drs. Sendziak of Warsaw, Bryson Delavan of New York, Sir Felix Semon, M.D., and Mr. Butlin, of London; Drs. Schmiegelow of Copenhagen, Kocher of Berne, and O. Chiari of Vienna.

Among the non-operative methods of treatment may be mentioned that by the animal toxins, which has recently received considerable attention, the local use of arsenious acid, pyoktanin, etc. The animal toxins appear to have had what little success is attributed to them in cases of sarcomatous tumors, while even those who show the greatest enthusiasm for this form of treatment claim little, if any, benefit from its use in epithelioma. The toxins which have been found of the greatest value are the streptococcus erysipelatosus and the mixed toxins of streptococcus erysipelatosus and bacillus prodigiosus. Some degree of success has also been obtained from the injection of a solution of arsenious acid, one case of apparent cure having recently been reported by Costinin.[1] Pyoktanin has also been recommended in these cases.

In malignant diseases, the important consideration is the entire eradication of the diseased area, and the above methods of treatment are applicable only in the cases in which for any reason an operation is contraindicated. In such cases they may be used as a palliative measure, as a hope of cure is admitted to be extremely small.

Regarding operative measures, there have been many discussions as to the relative value of the endo-

laryngeal and external operations. In advanced cases there can be but little doubt of the necessity of one of the forms of external operation. In incipient laryngeal cancer, however, which is the subject of this article, the question of endolaryngeal operations demands earnest consideration, as a number of successful operations have been reported by careful observers. Juraz of Heidelberg[2] reports a successful outcome in a case of epithelioma which developed on the right vocal cord, an interesting feature of this case being that it produced by contact a similar change in the symmetrical part of the left vocal cord, thus giving an instance of what has been described by Semon and Butlin as "auto-inoculation" of cancer. In cases in which the disease is circumscribed, as in the polypoid form, especially if limited to the vocal cords, the endolaryngeal operation should be given a trial. It is strongly contraindicated, however, in the diffused form. In many cases it is extremely difficult to fix the limits of malignant disease and, where there is any doubt, an external operation in which the part can be carefully inspected should be undertaken.

The endolaryngeal operation should be performed with forceps, double curettes, or the cold snare. The electrocautery, electrolysis, and cataphoresis should not be used in incipient cases, their application being limited as a palliative measure when complete extirpation is not practicable. The endolaryngeal operation is favored in suitable cases by Schmiegelow,[3] and Chiari[4] has shown that laryngeal cancer is capable of cure in many cases and that therapeutic nihilism is here altogether out of place. One of the greatest champions of this method is Fraenkel,[5] who recently reported a series of nine cases, five of the patients being cured. Sendziak has collated thirty-two reports of cases of endolaryngeal operation in which complete cure was proven in 12½ per cent. three years after the operation. The majority of operators, it must be admitted, have not been so successful, and Semon and others claim that permanent success is rare.

As the prognosis of cure is far greater when the disease is taken in its incipiency, the operation should be performed as soon as a diagnosis of cancer is made, while complete removal of the diseased tissue is possible and the patient strong enough for so serious a procedure. As long as the malignant growth is situated within the cartilaginous structure, the prognosis is much more favorable than when it has reached beyond these limits. When the diseased process attacks the epiglottis, aryepiglottic folds, or arytenoid cartilages, hope of success is far less because of the early implication of the lymphatic glands; but even then cure has been obtained.

Thyrotomy is considered the rational method of treatment for laryngeal cancer by many operators. It has the advantage of giving a clear view of the diseased area and enables its extirpation to be scientifically undertaken. The subject of tracheotomy, as associated with thyrotomy, has received considerable attention, especially as regards the interval between the two operations. As a palliative measure in advanced cases, when the respiratory passage has been occluded by the growth and when a radical operation is contraindicated, it is necessary to establish an artificial opening for respiration, and tracheotomy is required. Intubation, although undertaken in rare instances, is not advisable in these cases. Some operators perform the preliminary tracheotomy and the radical operation during the same anesthesia, but many prefer an interval between the two, so as to avoid the shock of the double operation and to prevent many of the inconveniences arising from the tendency to hemorrhage after tracheotomy; it has also the advantage of accustoming the patient to this artificial method of breathing. I have made it a rule in my practice to leave an interval of a week between the two unless the indications for a radical operation are extremely urgent.

The external operation has been subdivided into various forms, such as thyrotomy, pharyngotomia subhyoidia and lateralis, pharyngotomia transversalis, partial resection, and total laryngectomy. Chiari has described these in detail and gives the special indication for each operation. Thyrotomy is the most universally recommended, but pharyngotomia subhyoidia is indicated when the neoplasm is situated either on the epiglottis or aryepiglottic folds; pharyngotomia lateralis when the epiglottis or arytenoid cartilage is involved. Pharyngotomia transversalis is recommended by Gersuny as giving the operator a more complete view of the interior of the larynx, but it is rarely practised.

In the case of a tumor of the larynx suspected of malignancy, Delavan[6] believes that not only should thyrotomy be performed for its extirpation, but that it is entirely justifiable to make an exploratory thyrotomy.

Total extirpation of the larynx is a radical operation which was first recommended by Billroth, in 1873, and has since been successfully performed in a number of cases. This operation is not to be recommended, however, for incipient cancer of the larynx. Laryngectomy may be partial or complete, and may or may not include the neighboring glands, according to whether these are involved or otherwise. The case of J. Solis-Cohen[7] is well known, not only on account of its success, but also because the patient developed an intelligible form of speech

after the total extirpation of the larynx. Several similar cases have recently been reported. The advantage claimed for this operation is that the ends of the trachea are brought to the external edges of the cervical incision and there retained, thus cutting off communication between the larynx and the lungs and diminishing the danger of Schluck-pneumonia, and facilitating the act of swallowing.

As regards the danger of total laryngectomy, Sendziak has collated reports of 188 cases of extirpation with a mortality of 84 per cent. The technic of the operation has, however, been improved in recent years so that the prognosis is now somewhat more favorable. When the malignant disease has advanced to such an extent as to require the complete extirpation of the larynx for its removal the prognosis is not only very unfavorable but many operators have even doubted its justifiability on account of its attending danger, high mortality, and the mutilated condition of the patient after the operation.

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CLINICAL MEMORANDUM.

REPORT OF TEN CASES OF EPIDEMIC CEREBROSPINAL MENINGITIS.

By E. B. DOOLITTLE, M.D.,
OF HAZLETON, PA.

THE following cases seem worthy of report, chiefly on account of their strong relationship clinically and etiologically to acute lobar pneumonia. Unfortunately as no autopsy or bacteriologic examination was made in any case no positive deductions can be drawn.

These ten cases of cerebrospinal meningitis occurred during the winter and spring of 1899, in Jeanesville, Pa., a small village of about 800 inhabitants, while adjoining and far more populous towns were entirely free from it.

One case occurred in November, one in February, and the remaining eight between March 11th and May 18th, four being in April and two each in March and May.

Sex.—Six of the patients were males and four females.

Age.—Three of the patients were between eighteen and twenty-eight years of age, and seven were between four and eleven. In no instance did two cases occur in the same family, though five cases occurred in families living within a distance of two blocks all in one street.

General Conditions and Hygiene.—All of the patients were previously in good health. At least one-half would be classed as vigorous and robust. Eight of the cases occurred in families who were well-to-do and whose hygienic surroundings were the most favorable in the town. None was in decidedly bad sanitary surroundings.

Fatality.—Five cases or fifty per cent. were fatal.

Types.—No case of the fulminant or abortive type occurred in the series. The duration in fatal cases varied from four to twelve days; average about seven days. The duration in the case of patients who recovered varied from two to seven weeks; average about four weeks.

Onset.—The onset was sudden in nine cases. In one case it was more gradual. Headache, gradually increasing, existed for two or three days previous to the attack. Four cases were ushered in with a chill, vomiting, headache, fever and pain in the chest. (These patients all developed acute lobar pneumonia.) The remaining five cases began with vomiting, headache, fever and pain in the side, usually the right. The pulse was elevated in all, usually to about 120. The respirations were increased, varying from 30 to 60. The temperature was irregular, usually above 102° F. at onset and often 104°, later reaching 106° in some of the complicated cases.

Vomiting was present early in every case. Pain in the side, most frequently the right, and headache was present in every case. Pain in the abdomen was noted in four cases. Photophobia, more or less marked, was present in all the cases. The pupils were usually contracted slightly but reacted, though irregularly. Delirium, usually mild in type, was present in every case early and usually continued until convalescence was well advanced. Coma, slight in the milder cases, profound in the fatal ones, existed in all. Tenderness over the cervical region with beginning spinal rigidity was rarely ever present until the third and sometimes the fourth day of the disease but was present in every case. General hyperesthesia was present in five cases. Muscular twitchings were observed in most of the cases. No paralyses were observed in the case of any patient that recovered. Flexion of the leg upon the thigh and the thigh upon the body was often present in children.

Eruptions.—Herpes-labialis, usually the upper lip alone being affected, was present in every case, appearing from the second to the fourth day, and was the only eruption observed.

Complications.—Pneumonia, single or double lobar in type, was a complication of four cases from the beginning. All were fatal. Slight cough, with a very scanty slightly blood-stained expectoration was present in every case before the third day. Albumin was present in the urine in every case. No casts were found. Involvement of the joints was noted in two cases, consisting of swelling, pain, and tenderness. Of the patients that recovered none suffered from the impairment of any organ or function. One had a slight attack of purpura of the lower extremities about three weeks after recovery.

Diagnosis.—The fully developed disease presents no difficulty in diagnosis; but in the early stages, before the cervical tenderness and muscular rigidity occur, which in this series of cases was not until the third day, it is by no means so easy to distinguish it from pneumonia, more especially as all of these cases were ushered in by symptoms usually present in pneumonia. Vomiting, which is almost constantly present in meningitis early in the dis-

ease and rarely in uncomplicated pneumonia, together with the early appearance of consolidation of the lung in the latter and its absence in meningitis, appear to me to be the most prominent features distinguishing the two diseases in the early stages.

It may be worthy of note that during the month of April, in which month the largest number of cases occurred, ten cases of acute lobar pneumonia also developed in the same locality, more cases than had previously occurred in the neighborhood for more than a year. We are led to believe from clinical observations that in some epidemics at least cerebrospinal meningitis in its etiology is closely allied to acute lobar pneumonia.

MEDICAL PROGRESS.

Modification of Plastic Operations on the Lips.—SILBERBERG (*Centralbl. f. Chir.*, May 27, 1899) suggests a modification in the technic of operating for cancer of the lips, which shall give a complete red edge to both lips. It is only possible when the angle of the mouth is not excised. For instance, after the usual V-shaped excision of a growth in the lower lip, a double-edged knife is passed through the upper lip, at a little less than an inch from the angle of the mouth. The blade is passed obliquely so that the mucous surface shall be wide. The incision is made along the red border to the angle of the mouth, and then on out into the cheek for an inch or more, and thence downward toward the point of the chin in a line parallel to the edge of the V-shaped wound made by removal of the growth. Such a cut is made in both cheeks, and when the gap in the lower lip is closed by bringing together these flaps from both cheeks the angles of the mouth will be shifted from their usual positions to the points in the upper lips where the incisions began. The two lips being thus made of equal length, deformity of the mouth is avoided. This principle of operation can be adapted to any of the incisions about the mouth, which leave its angles intact.

To Heal Vaccination Sores.—BOND (*Maryland Med. Jour.*, July 1, 1899) says that although the most careful vaccination with fluid lymph will sometimes be followed by an ugly sore, the impression that one must wait with patience, as the sore will not heal for several weeks, is entirely unfounded. In all such cases the application, after removal of the suppurating crust, of a solution of nitrate of silver of 80 grains to the ounce will cause the sore to dry up, so that it may heal after one dressing. If the protective cotton again soaks through with pus in the course of a week, the treatment is repeated over the much smaller area, and this application will complete the healing. A solid silver stick will answer as well, but it causes much pain, so that children dread a second application, while the eighty-grain solution is almost without pain. By pursuing this line of treatment the annoyance of an arm which shall be sore for months, perhaps, is done away with and one of the strongest objections to vaccination is thereby overcome.

Syphilis and Tabes Dorsalis.—KUHN (*Centralbl. f. inner Med.*, May 27, 1899) attempted to gain some further knowledge of the relation between syphilis and tabes by looking into the history of some 800 hospital patients under treatment for nervous diseases. Some 214 of them had tabes. He found that a syphilitic history was five times more common among the tabetic than among the non-tabetic patients. Considering the large number of patients examined, this great difference cannot be set down as an accident, and while unwilling to go as far as Erb, and declare syphilis to be the chief, if not the only, cause of tabes, the author thinks that all must admit that it is one of its important antecedents.

Excision of Inflamed Bursæ in the Popliteal Space.—HAWKES (*Ann. of Surg.*, July, 1899) describes the successful excision in four patients of the inflamed gastrocnemio-semimembranosa bursa. This bursa, which as its name indicates, lies in the inner part of the popliteal space between the inner head of the gastrocnemius and the tendon of the semimembranosus muscles is one of the constant bursæ about the knee-joint. In about one-third of the cases examined it has been found to communicate directly with the knee-joint. In some instances there seemed to have been a traumatic cause for the bursitis, such as a sudden straining of the muscles but in others no cause for the swelling could be learned. The chronic swelling gives rise to little pain, but causes a weakness and full feeling of the knee, which if allowed to increase may interfere considerably with the function of the limb. The condition must be differentiated from aneurism, lipoma, cold abscess, sarcoma, and from inflammation in some other bursa of the region. No cures have been recorded from internal medication, nor from outward applications nor compression. Aspiration of the contents is difficult on account of the thick character of the fluid and is dangerous as several cases have been recorded in which purulent inflammation of the knee-joint followed, and amputation of the limb was necessary to save life. Nothing better can be said of the injection of carbolic acid, iodin, etc. Excision is the treatment of choice, and after the limb has been rendered bloodless by an Esmarch bandage, it is carried out without difficulty. Hawkes obtained primary union in the case of all four of his patients. After operation the limb was held fixed for two weeks by a plaster-of-Paris bandage.

Suppurative Phlebitis and Lymphangitis of the Pelvis after Childbirth.—THOMAS (*Centralbl. f. Gyn.*, June 17, 1899) says that if the history of the illness is supplemented by a careful physical examination of the patient it is possible to make a differential diagnosis between suppurative phlebitis and lymphangitis of the pelvic organs during the puerperal period. Lymphangitis spreads gradually in the planes of the connective tissue; phlebitis makes a discrete swelling in the region of the large veins, outside of the ligaments, and shows no tendency to spread but rather to remain the same for weeks. The posterior and anterior peritoneal pouches tend to remain free, while in lymphangitis they are especially involved. If suppurative phlebitis spreads it does so by metastasis while the patient

suffers from chills. It is rare that a patient having lymphangitis dies from a rapidly advancing septicemia. The usual course of the disease is to become localized in the broad ligament of one side, or to disappear altogether. When a fever appears during convalescence from childbirth, one should not hastily brand it as milk-fever, or as due to metritis until the uterus is examined. Often there will be found circumscribed swellings at the points where the large lymph-vessels leave the uterus, swellings which will disappear without any special medication if the patient is kept quiet and is given a suitable diet and the bowels are kept free.

Surgical Treatment of Incontinence of Urine in the Female—FLOUQUET (*Jour. des Sci. Med. de Lille*, May 20, 1899) describes a new method of treatment of incontinence of urine in women. The plans previously proposed have been expected to accomplish their object by constriction of the urethra or deviation of its canal. Schultze resected an oval piece of the urethra from the neck of the bladder to within half an inch of the meatus. The wound was closed with seven or eight sutures. Edgstroem performed the same operation, but avoided the mucous membrane, because if the suture did not hold, the vaginal fistula made the condition of the patient far worse than before. Franck modified Schultze's operation by taking out two lateral ellipses and suturing in such a manner that the central portion of the mucous membrane was crowded into the lumen of the urethra, like a hypertrophied third prostatic lobe. Desnos tried to constrict the posterior portion of the urethra by passing a thread around it, but the results were inappreciable.

In 1880 Pawlik began a series of attempts to cure incontinence by approximating the walls of the urethra, and changing the direction of its lumen. Anterior operations were found to give rise to fistula. Guersuny planned to twist the urethra on its long axis, and by increasing the resistance to the flow of water, prevent incontinence. These two plans have been altered and combined by different operators, and in some instances with considerable success. Blech tried to increase the pressure on the external meatus, by making a vertical incision in the skin on either side of it, and suturing the wounds transversely. This operation can be performed under cocain, and can not well make the condition of the patient worse even if it fails to accomplish its object. Albarran reported the cure of incontinence by separation of adhesions between the bladder and uterus. Other surgeons have claimed to cure it by the simple division of cicatricial bands on one side or the other of the urethra or neck of the bladder.

Fischer's operation, which is the new one described by Flouquet, is a liberation of the meatus laterally and inferiorly. An incision is made along each side of the meatus and prolonged for more than an inch into the vagina. Then a strip of mucous membrane half an inch wide is resected from the outer side of each of these incisions. The urethrovulvovaginal band is divided and the part of the hymen or its remains, corresponding to the operative field, is resected. The lateral wounds are then sutured separately and a strip of gauze is inserted between them to prevent any possible adhesions between the right and left suture lines, and the vagina is filled with gauze. The patient is catheterized for twenty-four hours to avoid contamination of the wound, and is kept in bed three days. The tampons should be inserted daily for three or four weeks and the cicatrization carefully watched during this period. The results are said to be most satisfactory.

The Lawson-Tait Bedstead.—The late Lawson Tait, in the first number of a new medical journal, *The American Medical Quarterly*, which was published in New York in June last speaks of the advances which have been made in recent years in bedsteads. The change from the inconvenience and uncleanliness of the old four-poster, to the modern iron single bed, as we know it in all hospitals, and in a constantly increasing number of homes, was really the result of the education of modern nurses. Nearly twenty years ago Tait devised a bedstead with heavy woven-wire springs, steel side-bars and end-pieces, which is similar to the furniture used in hospitals to-day. He was an advocate, however, of a low bed both for the comfort of the sleeper and for that of the nurse in case of sickness. Seventeen inches from the floor to the top of the mattress he gives as the correct height for people of average size. To avoid sagging in the middle the frame which holds the spring is slightly arched, so that when the weight of a person is placed upon it it will be level. Under these circumstances it is easy for a feeble person to turn over on his side. Instead of castors he recommends rubber foot-pads.

Rectal Medication in Infancy.—GARRIGA (*Rev. de Therap. Medico-Chirurg.*, June 1, 1899) advocates rectal medication in young infants, on account of the rapid absorption by the rectal mucous membrane, and because of the difficulty of administering to an infant anything having an unpleasant taste. The best method is to introduce the desired remedy in a cocoa-butter suppository. In this manner the author has obtained excellent results, for instance, with the sulphate or hydrochlorate of quinin in eruptive fevers, grip, etc. The suppository will be melted in five minutes, and after that there is no danger of its expulsion.

THERAPEUTIC NOTES.

A Fat Man with a Diabetic Family History Recovers from Diabetes.—WEST (*Lancet*, June 3, 1899) tells of a large, stout man who had been for three weeks ill, with thirst, frequent micturition, and loss of weight. His urine was 1030, and contained 8 per cent. of sugar. He was put upon a strict diet and given a mixture containing cinchona and acid. In a month the sugar had all disappeared from the urine, and the thirst had gone. He was allowed to eat some bread. The sugar reappeared in small amount but he kept on with his bread, and soon the urine was normal. For a year he continued on a diet containing almost no sugar, but considerable starch. He was so well then that he was advised to try a mixed diet, which he did, remaining in perfect health

up to the time of report nearly two years later. This case is the more remarkable in that the mother and sister of the patient did of diabetes, at the ages respectively of seventy and thirty years, while a half-sister on the mother's side died of the same disease at the age of forty-eight years. The case also illustrates the rule that if the patient is going to improve on a diabetic diet, the improvement will manifest itself in a short time.

Ascites Due to Hepatic Cirrhosis Cured by Operation.—MORISON (*Lancet*, May 27, 1899) has operated in four cases of ascites due to cirrhosis of the liver. In one the diagnosis was doubtful, and in another renal complications brought about the death of the patient in eleven days. In two uncomplicated cases a complete cure was the result. One of the patients died two years later after an operation for ventral hernia, and as the abdominal organs were injected before the peritoneum was opened, the resulting specimen showed very plainly how successful had been the attempt to establish new channels for the venous blood from the surfaces of liver, spleen, and omentum, to the parietal peritoneum. In some places there were veins the size of the radial artery in the cicatricial tissue as a result of the scraping and suturing at the operation two years before. Morison concludes that it is no longer advisable to treat patients with ascites due to cirrhosis of the liver by repeated tappings, but that if one or two tappings have failed, an attempt should be made to establish adhesions between the liver, spleen, and omentum, and parietal peritoneum. His cases show that such adhesions are filled with blood-vessels, which will persist if there is need of them.

Treatment of Muscular Rheumatism —OSLER ("Practice of Medicine") says that rest to affected muscles is of the first importance. Strapping the side will often relieve the pain of pleurodynia. In acute lumbago acupuncture is the most efficacious treatment. Needles three or four inches in length (sterilized hat-pins will answer) are to be thrust into the muscles at the seat of the pain and left for five or ten minutes. Very often the relief given by this procedure is instantaneous. At the outset a Turkish bath will frequently cut short the attack.

Treatment of Acute Inflammation of the Middle Ear.—BISHOP ("Diseases of the Ear, Nose, and Throat") says that in the first stage, before the pain has become intense or effusion has occurred, the ear should be gently inflated and the canal filled with pure, warm vaselin. The patient should be kept in bed and given morphin, gr. $\frac{1}{6}$, with atropin, gr. $\frac{1}{400}$. A solution of cocain, 10 to 20 per cent. may be dropped into the canal. The bowels are to be evacuated and leeches applied in front of the tragus and behind the auricle. No oil, onion-juice, or other domestic remedy should be allowed in the canal, nor should poultices be applied, as they favor the occurrence of suppuration. Fever calls for the use of antipyretics, but quinin should not be used. To allay the pain the use of the following simple device is often successful: an ordinary clay pipe is partly filled with tobacco and lighted, and a piece of thin cloth put over the bowl. A loose plug of cotton having been lightly inserted in the meatus the end of the pipe-stem is gently rested against the plug and the warm smoke driven through this into the canal by blowing into the bowl. If rupture of the drum is threatened it should be freely incised in the postero-inferior quadrant. A 20-per-cent. solution of cocain should be left in the canal for twenty minutes previous to the puncture of the membrane, and applied afterward if the pain persists. After the pain has ceased the ear should be gently inflated daily for a few days as the air-pressure promotes absorption of the products of inflammation.

Treatment of Subacute and Chronic Gout —To check excessive formation of uric acid LUFF ("Gout; Its Pathology and Treatment") recommends attention to diet and regimen, the promotion of metabolism of the liver, and the relief of congestion of the portal system. Colchicum in small doses, with guaiacum resin, gr. v–x, in capsules should be given three times a day, and an occasional pill at bedtime of blue mass and enonymin, followed next morning by Epsom salts. If there is atony and debility of the stomach nux vomica with potassium citrate is indicated. Iron preparations are, as a rule, not well tolerated by the gouty, but if anemia is present the citrate of iron and ammonium or the carbonate of iron will be appropriate. To promote the elimination of uric acid free diuresis should be encouraged by the use of large quantities of water. Table-salt should be avoided as much as possible. For enlarged and tender joints iodid of potash, gr. v–x, with tincture of iodin, *m.* v–x, should be given three times daily. Guaiacum should not be used when marked inflammatory symptoms are present. The lithium salts are not useful except as powerful diuretics. The possibility of organic renal disease must be kept in mind constantly.

Repose in Bed in Alcoholism.—MAGNAN (*Rev. de Therap. Medico-Chir.*, June 1, 1899) says that repose in bed is one of the best sedatives for cerebral excitation occurring in acute or subacute alcoholism. The predominant phenomena of these troubles are the illusions and hallucinations, and these are increased if the patient is kept in the dark, while if he is kept in the light, only the fixed objects about him are associated with his imaginings and forms which are wholly fanciful are relegated to a secondary place.

Treatment of Simple Pharyngitis.—BISHOP ("Diseases of the Ear, Nose, and Throat") advises the following: The patient should be given a tablet containing caffein, gr. $\frac{1}{6}$; morphin, gr. $\frac{1}{12}$, and atropin, gr. $\frac{1}{200}$, every four or six hours for a few days, or the following may be prescribed:

℞ Ammon. chloridi . . . gr. ii
Tr. opii camphor. }
Syr. scillæ comp. } aa . . *m.* v
Syr. tolu. }
Ext. glycyrrhizæ . . . gr. iiss.

These ingredients should be made into a tablet and allowed to dissolve slowly in the mouth. Quinin is not to be used. Gargles are inefficient.

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SANARELLI ON THE SPECIFIC NATURE OF THE BACILLUS ICTEROIDES.

We have insisted in the editorial columns of the Medical News on the danger from yellow fever that inevitably accrues to the United States through her present occupation of infected islands in the West Indies. The recent epidemic among our soldiers at Santiago and the outbreak at the Soldiers' Home near Fort Monroe unite in bringing home to us the urgency of American interest in this problem. Though these outbreaks of the disease have been exaggerated by the sensation-loving newspapers there has been enough of seriousness in them to warn us of the danger that the new state of affairs has brought with it.

It is unfortunate under these circumstances that despite all the work which has been done on the subject the etiology of the disease still remains in doubt. It is the special policy of the Medical News to keep its readers thoroughly informed as to every phase of the discussion with regard to the pathogeneity of Sanarelli's bacillus in the disease. Though a number of seemingly trustworthy investigators have confirmed his discovery and the New York harbor quarantine department has founded a method of treatment of the disease on this theory, there still remain a number of experienced bacteriologists who do not consider Sanarelli's bacillus as the specific cause of yellow fever.

We are very glad then to be able to present a review of the whole subject to date from the pen of Sanarelli himself who is at present Professor of Hygiene at the University of Bologna. The article from the distinguished bacteriologist will appear in next week's issue of the Medical News. It comes to us as a tribute to the scientific discussion of the subject that has found a place in our columns at various times, and which Professor Sanarelli himself has followed with avowed interest. The discoverer of the bacillus icteroides considers himself now in a position to effectually dispose of adverse criticism concerning its specific pathogeneity and his very valuable original article on the subject will warrant general interest throughout the country.

VIRULENCE OF SPIDER AND OTHER INSECT BITES.

In this number of the Medical News we publish an abstract of a paper by Dr. Palmer Cole, read before the Harvard Medical Society of New York, in which he details his personal experience with a spider bite that proved very serious. At rare intervals in this latitude spider bites are inflicted that seem to possess a special virulence. There are a few species of spiders in the temperate zone which secrete a certain amount of poisonous or very irritating material and whose bite may set up considerable local disturbance. There is none, however, that could be expected to produce serious constitutional trouble unless in the presence of an extremely sensitive idiosyncrasy. As a matter of fact, any number of spider bites occur annually without any more than passing annoyance to the person bitten, and without even any marked local inflammatory reaction.

That serious results do sometimes follow even the bites of our domestic spiders, if they may be so designated, there is no doubt. A number of cases similar to that reported by Dr. Cole have been traced by most careful and capable examiners from the time

at which the bite was inflicted, and there could be no room for doubt as to the etiology of the constitutional symptoms that followed. Practically all of these cases have a decided similarity to those of ordinary septic infection resulting from operation- or dissection-wounds. There is the same slight inflammatory reaction for a time in the vicinity of the wound, then a period of almost absolute latency, lasting from twenty-four to forty-eight hours or even longer, then the signs of a spreading infection, a lymphangitis of the arm, perhaps, and finally the ordinary symptoms of septicemia, or at least of absorption of a certain amount of septic material. Flies often have an opportunity to alight on septic matter, bandages, dressings, and the like, containing the ordinary pus-cocci, or on animals dead from contagious disease. They become contaminated with it externally as well as internally, and then, in many instances, are devoured by spiders. It is a well-known fact in natural history that spiders are extremely cleanly insects. Certain species have been observed to clean themselves with as much solicitude and in a manner quite similar to the domestic cat. It is probably due to this reason that spider bites are not oftener serious in their results. Surgical cleanliness is quite beyond the spider's instinct, however, and so at times septic infection follows the contact.

The treatment of the lesions caused by a spider bite should be directed rather to the complications liable to ensue than to the actual bite itself. As in most insects the poison secreted by a spider is considered to be of an acid reaction, and the free use of ammonia, by counteracting the acidity, will relieve the irritation of the tissues most readily. If the only irritant introduced beneath the skin has been the spider virus, no further local treatment will be required, and the lesion will heal kindly and without giving further pain. If, after a period of latency, pain, slight throbbing, and an increasing area of redness occur, then the wound should be treated at once as an infected one and laid freely open. All the precautions should be taken in its treatment as would be considered necessary in a dissection- or operation-wound which showed signs of having become infected. Promptness and thoroughness, as is well known, count for much in the treatment of these conditions, and the same thing will be found to hold good in the case of spider and other insect bites, and patients will be saved serious sickness and danger.

THE POSITION OF THE SIGMOID FLEXURE.

THE sigmoid flexure is from both the medical and surgical standpoint an extremely interesting portion of the intestine. Its position at the end of the descending colon and its supposed tendency to provide a favorable place for the accumulation of feces makes it one of the convenient parts of the anatomy to which to accord the responsibility when congestive conditions of the lower limbs or of the genital tract or the rectal region are found to be present. Its importance in gynecological work because of its contiguity to pelvic structures and in intestinal surgery because of its frequent involvement in ileus and its deliberate choice as the point of election in the production of artificial anus make its anatomical relations of special interest. It is of great practical importance then, to note the expression of more recent anatomical views as to its position and relations.

Professor Gerrish in the recently issued "Text-Book of Anatomy by American Authors" has a very striking colored plate in which the sigmoid is seen dipping into the true pelvis at the left, crossing it transversely and rising on the right to curve backward and downward to meet the rectum. The old idea entertained by most medical men that the sigmoid occupies the left iliac fossa is rather rudely dispelled. The description given in the text is exactly in accord with the notion conveyed by the illustration, while an accompanying explanatory diagram emphasizes still more the idea that part of the sigmoid loop dips transversely across the true pelvis to rise out of it again before eventually descending from the right side posteriorly to meet the rectum.

The idea is of course not new, but the practical lessons it teaches have not, we think, been brought home fully to the great body of the profession. A good while ago Treves broke away from traditional descriptions of the position of the sigmoid and gave the one that he repeats in detail in "Morris' Anatomy":

> The normal position of the sigmoid or omega loop is not in the left iliac fossa but wholly in the pelvis. The descending colon ends just at the outer border of the psoas muscle. The bowel descends vertically along the left pelvic wall and may reach the pelvic floor. It then passes more or less horizontally across the pelvis from

left to right and commonly comes in contact with the right pelvic wall. It will be therefore in more or less direct contact with the bladder and uterus and may touch the cecum.

Treves' description is the one usually adopted now and is confirmed by so good an authority as Testut. Schäffer and Symmington, the editors of Splanchnology in "Quain's Anatomy," have not been so explicit in their description, but that is evidently due to the fact that relational anatomy is not especially dwelt on.

Kelly in his recent work on operative gynecology gives a very complete description of the sigmoid and its relations, especially to female structures, which he illustrates fully. He has found the relations of the sigmoid very variable in different individuals but with a decided tendency in all cases to wander to a goodly distance from the left iliac fossa in which it has been presumed to mostly lie. In one class of cases he has found it made a sigmoid curve behind both broad ligaments. In a second class it curves out into the anterior portion of the pelvis over the bladder, and then back to the sacrum. In a third class there is an extension up into the abdomen as it crosses from left to right of the pelvis and the descent of the bowel is from the right. Finally in a fourth class the sigmoid passes in front of the uterus almost to the region of the right round ligament where it curves backward to reach the promontory of the sacrum, at which point it makes a plunge down into the pelvis.

It is evident that the varying positions of the sigmoid and the important place it occupies in relation to pelvic structures generally must make it of even more consequence medically and surgically than has been thought. The clinical study of the influence of the sigmoid in the light of these newer anatomical details in various pathological conditions of itself and of contiguous organs can scarcely fail to clear up a number of obscure affections in the pelvic region generally and prove a source of knowledge of the greatest practical importance.

ECHOES AND NEWS

A Typhus-Fever Epidemic.—There were thirty new cases of typhus fever at Loeftan, Germany, on July 26th, making a total of 150 cases.

A Public Fund for Bacteriological Research.—Efforts are being made in France to secure by public subscription a fund for bacteriological research. A few rich corporations have already subscribed a total of 78,500 francs.

The Plague in India.—It was reported on July 31st from Bombay that the plague is raging at Poona, where, in forty-eight hours, there were 59 new cases and 56 deaths in the city, and in the cantonment 301 new cases and 261 deaths.

"Divine" Healing of No Avail.—Mrs. Edward Flanders died of "blood poisoning" at St. Luke's Hospital, Chicago, on July 29th, after having been attended by Mrs. Bratz, a "divine healer." The State Board of Health of Illinois has notified its attorney to investigate the case.

Sick Soldiers from Manila.—The transport "Morgan City" arrived at San Francisco on July 24th from Manila with 473 soldiers on board. When the vessel left Manila all the men were sick or wounded. On her arrival all but thirty were able to be on deck. Three men died on the voyage.

Miscegenation in Washington.—A daily statement is published in Washington, D. C., of licenses issued for marriage. There have been but two departments, one of white persons and the other of colored persons licensed to marry. On July 24th a third was organized, for white and colored.

Men Wanted for the Hospital Corps.—There is said to be a dearth of applicants for enlistment in the Hospital Corps of the new regiments for service in the Philippines. In time of peace, at any rate, this part of the service is rather unpopular among the rank and file. Whenever the jokes run scarce, the "hospital corpse" is made the subject of such delicate and gentle raillery as is characteristic of the army private.

A Hospital for Consumptives.—The Reverend Dr. Robert McIntyre, pastor of St. James' Methodist Episcopal Church of Chicago, announced on July 24th that a wealthy and prominent man, who wished his name withheld, will use part of a large fortune in erecting a hospital for incurable consumptives. This building will be a memorial to the donor's daughter who died after much suffering from consumption.

London Poisoning Case.—An inquest into the cause of death of Mr. F. W. Bartlett of Philadelphia was begun in London on July 28th. On July 17th Mr. Bartlett after dining at the Inns of Court Hotel was taken sick, as were thirty four fellow diners. Dr. Munford, who attended a number of them, found them ill with gastro-enteritis. The poisoning seems to have been either from American tinned apricots or from gooseberry ice cream. Mr. Bartlett died on July 26th.

What Is the Matter with Lombroso?—Lombroso's sanity is being questioned, and not without reason. He has written an article for the August number of the *Pall Mall Magazine*, entitled "An Epidemic of Kisses in America," in which he tells of Hobson's "10,000 kisses," of their publicity, and of how he was at the time addressing "a

crowd of specially elite persons." Lombroso states that "Hobson began his career of kissing at Vassar College," etc., etc. A scientist should be sure of the primary facts from which he makes deductions.

Reported Birth of Seven Children.—The report comes from Brownsville, Penn., to the effect that Mrs. George Hackett, colored, gave birth a few days ago to seven children, four girls and three boys. They were all alive when born, but all died within a few hours but one. The reports say they were small, but well formed. The parents are poor, the father being a miner, and about twenty-five years old. The mother had two children before giving birth to these. She is said to be doing well, and the one child will probably live.

Rabies in Erie County, New York. — According to the statement made at Albany on July 27th by Commissioner Weiting of the State Agricultural Department the worst outbreak of rabies reported in many years in now raging in Erie County. People, dogs, horses, and cows are suffering. Four of the present inmates of the Pasteur Institute in New York City are from Erie County. A large St. Bernard dog, belonging to a man living in Albion, is responsible for the spread of the disease. He ran wild for some forty miles before he was shot.

Queer Life-Insurance Case.—One Thomas Chase is supposed to have died at Milligan, Tenn., in February last, leaving to Mrs. Chase a life-insurance policy of $30,000. This the life-insurance company paid, but through its attorney it seeks to recover this amount, alleging that Chase did not die as was reported, and that a wax figure was buried as his body, that he was probably the victim of a hypnotist who worked in collusion with the beneficiary to secure the insurance money, and who probably spirited Chase away while he was under hypnotic influence.

Legal Status of a Legacy to a Physician's Wife.—A patient in Van Rensselaer County, N. Y., during his last illness devised all his real estate to the wife of his attending physician. Two days before his death and while suffering greatly from heart disease he also willed her his personal property. Some fifteen years before he had made a will in favor of his relatives but this he cancelled. The surrogate of Van Rensselaer County has revoked the probate of the will, holding that the presumption of undue influence which exists between physician and patient had not been overcome, that no sufficient explanation had been given for the exclusion of the sisters to the advantage of a stranger and that the probate allowed without contest must consequently be revoked.

The American Association of Obstetricians and Gynecologists.—This Association will hold its twelfth annual meeting at Indianapolis, Indiana, September 19, 20, and 21, 1899. Many valuable papers have been promised, and the meeting is sure to be an exceedingly interesting one. A committee of arrangements has been organized, consisting of a number of physicians of Indianapolis, under the chairmanship of Dr. L. H. Dunning, and the management of the Denison House offers the special rate of $3 without bath, and $3.50 with bath, a day, American plan, to members and guests of the Association who attend the meeting. The Denison House will also provide an excellent room for the meeting. Dr. Edward J. Ill of Newark, N. J., is president of the Association, and Dr. William Warren Potter of Buffalo, N. Y., secretary.

Antivaccination Crusade.—There are English antivaccination eccentrics who are rather prematurely wearing halos, being entitled thereto by the martyrdom which they are undergoing. A case was opened on July 28th in the Court of Queens Bench in London. The "Leicester Guardians," consisting of 35 men and 5 women, appeared to show cause why a mandamus should not be issued to compel the appointment of a vaccination officer. These guardians were elected under a pledge to resist compulsory vaccination. During their journey to London crowds of sympathizers met them at various stations and cheered them vociferously. In London they were met by huge crowds, who cheered the "Leicester martyrs," and accompanied them to the court, having formed a procession for that purpose. The Court, however, mandamused them.

Typhoid-Fever Statistics.—The New York State Board of Health has been analyzing the figures for this State to find in what localities typhoid fever has been especially prevalent. The disease is usually found more in rural districts than in cities. The rate in the small towns and country districts in 1897, was 149 and in 1898, 174 deaths in 10,000. The cities do not all have a lower rate than the rest of the State, and the Board, in a tabulation of the death-rate figures, groups them for convenience into three classes: those having a rate below that of the rural districts, those having about the same rate, and those having a decidedly higher rate. In the first class, cities having a low rate of deaths in each 10,000 deaths in 1897 are placed New York, Brooklyn, Yonkers, Utica, and Auburn; in the second class, Buffalo, Rochester, Syracuse, and Troy; and in the third, Albany, Elmira, and Binghampton. In most of the cities, as in the State at large, there was in 1898 a decided increase in deaths from typhoid fever, and 6 of the 12 cities had a higher rate than the rural districts in the same year.

The Ohio "Hygeia Medical College."—The question of the competency of this college to grant degrees in medicine and surgery was raised recently in an action brought against that institution by the Attorney-General of Ohio. The defendant's charter empowers it to educate "suitable persons in the art and science of curing disease by the use of air, baths, electricity, heat, magnetism, massage, and all other resources of Nature." It was contended by the Attorney-General that this language was too general to apply to courses of medical and surgical instruction such as are given in schools of good standing and repute, but the Supreme Court of Ohio decided against him, saying that it is not made to appear that any subject taught by the faculty is beyond "the resources of Nature." However, the expression is not one that would naturally

be selected as indicative of a purpose to teach medicine as practised ordinarily. The agencies of cure mentioned in the charter seem rather to exclude the idea of employing artificially compounded drugs; and the Attorney-General seems, therefore, justified in having attempted to restrict the activities of the institution.

A New Pathological Institute for Oxford.—Oxford has long been in need of increased facilities for the teaching of pathology. This has been strenuously urged on several occasions recently, notably by Sir John Burdon-Sanderson, but the funds for the purpose were not in the University treasury. Not long ago a friend of the University offered to contribute £5,000 to the Pathological Department if as much more were provided from other sources. The University congregation decreed at a recent meeting to supplement the contribution of the generous anonymous donor by £5,000, so that a new Pathological Institute for the University seems assured. Building operations cannot be begun until after the University convocation has passed on the matter but no opposition is anticipated. It is confidently expected that within a year Oxford will be provided with a pathological department that will yield to none in its completeness and the facilities it will afford for teaching and investigation. A fund for the furnishing of apparatus to the new laboratory is being enthusiastically contributed so that it is evident that a new era in pathology is about to open up for the University.

Lawson Tait and His Position in the Profession in England.—A great deal of capital has been made in recent years by the Antivivisectionists out of Lawson Tait's adherence to their views. Our London correspondent a short time ago touched in his usual happy trenchant style upon the Antivivisectionist epitaph that the distinguished surgeon ordered in his last will and testament to be placed over the vault in which his ashes rest. The following words and appreciation of Mr. Tait's career in recent years, from the pen of one of the ablest of medical editors, that of *The Practitioner* (London), will be of interest to our readers: "Another surgical writer who was always readable, however much one might differ from the opinions and sentiments which he expressed, has passed away in poor Lawson Tait. Nature had been prodigal of intellectual gifts; and assuredly he did not hide his light under a bushel. Yet his last years were spent in a fruitless struggle to regain a lost position. In one way he was *felix opportunitate mortis* (blest in the moment of his death) for his professional sun had well nigh sunk below the horizon. What this occultation was due to is a subject which I do not feel called upon to discuss, nor is it for me to enforce the moral of his career."

A Step in the Right Direction.—The following is from an editorial in the June, 1899, issue of the *Medical Times*, (homeopathic): "However valid may have been the reason in the early days of the homeopathic school for identifying its institutions with a distinctive sectarian name, it is a matter worthy of the most careful consideration, if, in the present advanced and ever-advancing state of medical thought, when the most accurate scientific tests are being applied honestly and faithfully to every principle in medicine, and to every new thought developed in the wide range of studies connected with our profession, the retention of that name in our colleges and hospitals does not retard their influence and create in the minds of scores of students in after years a feeling of regret that in a profession ever broadening in its scope and becoming more and more a unit in its work, their diploma, in name at least, is a distinct sectarian one, and out of tune with that broader liberty which looks upon the whole world as its own. There is no disputing the fact, for the records are open to all, that every year many, very many physicians, on whose diplomas the name Eclectic or Homeopathic appears, seek and obtain from other colleges a non-sectarian degree, in which no pledge is required or implied of adherence to any one dogma, and giving perfect liberty for that freedom of action based upon a careful education and mature thought. At the commencement of the Cleveland College of Physicians and Surgeons last month, no less than fifteen homeopathic physicians secured the diploma of the college after having spent the winter in study."

Yellow Fever Near Fort Monroe.—On July 31st it was reported that yellow fever had broken out in the National Soldiers' Home, between Hampton and Fort Monroe, Virginia, in which about 4,000 veterans reside. There have been forty cases on the reservation and seven deaths from the disease have been reported. The United States authorities at Fort Monroe have already quarantined against the Soldiers' Home, and street cars running through the town of Phœbus, adjoining the Home, are not permitted to enter the Government reservation at Old Point Comfort. Newport News and Hampton have already taken steps to quarantine against the Soldiers' Home, and rigid regulations will go into effect at once. Dr. Samuel W. Hobson, quarantine officer at Newport News reports that the disease is beyond doubt yellow fever. The authorities of the Home readily admit the fact and no effort will be made to withhold from the public the real nature of the situation. Surgeon General Wyman of the Marine Hospital Service says that he will go to Hampton in a few days to take charge of the work, if it is decided that it is genuine yellow fever. The Government will adopt strict precautionary measures to prevent the spread of the disease, and will fight its progress with all the skill and resources at its command. Dr. Wyman has sent Surgeon White of the Marine Hospital Service to take charge. Surgeon Wasdin, one of the yellow-fever experts of the service recently returned from Cuba, happened to be visiting Norfolk, and he has been ordered to duty. Surgeon Wedenbacker, stationed at Wilmington, N. C., has also been ordered to Norfolk, so as to be available for any duty for which he may be required.

The Cancer Problem.—Dr. Woods Hutchinson of Buffalo, now in London, has published the second of a very interesting series of medical articles in the July number of the *London Contemporary Review*. The first paper, a very suggestive essay on cellular biology, appeared in the

April number under the title "The Republic of the Body." The present article, on "The Cancer Problem," is a very timely popular exposition of the subject of cancer which is at present of more than passing interest on account of Professor Roswell Park's declaration that cancer is very rapidly on the increase, which was published simultaneously in the MEDICAL NEWS and *The Practitioner* of London, and attracted a great deal of attention. One remark in Dr. Hutchinson's article will we think be highly suggestive even to medical men. "If we strike out the mortality from cancer of the mammary gland and of the uterus and its various appendages in women and that from cancer of the mouth-parts, that is, the lips, tongue, larynx, etc., in men, the cancer mortality will be almost exactly equal in both sexes. Curiously enough, the mouth-parts take on a development about the age of puberty in man that corresponds more or less to the development of the internal genital apparatus in woman. It is true this development is not one of actual tissue increase so much as functional evolution. The larynx grows larger, the vocal cords longer and coarser, the throat and lips enlarge, and the palatal arches, soft and hard, develop so as to make the characteristic deeper voice of the adult male. If would seem that the liability of these two sets of structures to cancer about the time when involution of the organism begins, bears a definite relation to their functional development about the time of puberty."

MEDICAL MATTERS IN NEW YORK.

DEATH FROM HYDROPHOBIA — MIRACULOUS CURES EXPECTED FROM KISSING A HOLY RELIC — FREQUENCY OF HYDROPHOBIA, ACCORDING TO THE S. P. C. A.—ILLUSTRATING THE REPORTS OF THE BUREAU OF MUNICIPAL STATISTICS—QUARTERLY REPORT OF THE BOARD OF HEALTH.

AN interesting trial of the Buisson treatment for hydrophobia was made a few days since. George M. Bockoven, fifty-six years old, the captain of a tugboat, was bitten in the right hand by a mongrel dog on June 12th. There were seven wounds in all, and they bled very freely. They were cauterized with carbolic acid and quickly healed. The man suffered no inconvenience until July 23d, when he began to feel considerable pain in the right arm. Three days later he could not swallow water or food, and respiration was interfered with. On July 27th the symptoms of hydrophobia were so pronounced that his physicians decided to resort to the so-called Buisson treatment, the period when antitoxin might have proved efficacious having passed. The patient was put in a steam bath at 120° F. for half an hour, and then rolled in blankets, where he was allowed to remain several hours, when the hot bath was repeated. Small doses of morphin were given to quiet the spasms. There was absolutely no favorable result from this treatment, and the man died in great agony the following day.

On July 26th, from early morning until night, men, women, and children passed before the shrine of St. Anne, mother of the Blessed Virgin, in the little red brick French church of St. Jean Baptiste, in East Seventy-sixth street. Their object was to kiss a relic of the saint, a piece of bone from her forearm, which the Curé, the Rev. Frederic Tréteau, obtained seven years ago from the church of St. Paul outside the Walls at Rome. Many of the devotees were on crutches, or leaning painfully on walking-sticks, some were blind, some deaf, and some sufferers from many other ills. Father Tréteau said that it had not come to his knowledge that any miraculous cures had occurred.

John P. Haines, president of the American Society for the Prevention of Cruelty to Animals, has contributed an article in the current number of *Our Animal Friends*, published by the Society, on "Rabies and Hydrophobia." He says: "Hardly any phrase in the English language is more misleading or has done more cruel injury to man and beast than 'dog days.' There are no days on which and there is no kind of weather during which a dog is peculiarly liable to rabies. Rabies is a rare disease at all seasons of the year, and there are no more cases of rabies in July or August than in December or January. It follows, therefore, that there is no more reason to dread our family friend, the dog, in hot weather than in cold, and no more reason to dread hydrophobia from his bite at one time of the year than at another.

"Genuine hydrophobia is one of the rarest of all the diseases by which humanity is afflicted, and rabies, the canine disease from which hydrophobia is supposed to be contracted, is also one of the rarest diseases of the dog. Medical men of eminence have not hesitated to say that there is no such disease." Dr. Charles W. Dulles, Lecturer on the History of Medicine at the University of Pennsylvania, is quoted as saying that he has failed, "after sixteen years of investigation, to find a single case of hydrophobia on record that can be conclusively proved to have resulted from the bite of a dog or any other cause."

As to the Pasteur treatment, Mr. Haines puts forth Dr. Dulles' assertion that "so far from having diminished the number of deaths from alleged hydrophobia, they have actually increased since the date of his supposed discovery." Says Dr. Dulles: "There has been added to these a large number of deaths due to inoculation of the virus of what ought to be called 'Pasteur disease.'" Dr. Dulles believes that the Pasteur method has done nothing whatever to diminish hydrophobia, but rather, on the contrary, that it has done much to increase it. [This is rather interesting in view of the success generally attributed to inoculative treatment for the prevention of hydrophobia. We are almost tempted to believe that Dr. Dulles has been incorrectly quoted.]

Dr. John Nagle, Chief of the Bureau of Municipal Statistics, has devised a scheme for illustrating the annual reports of the bureau with photographs of all important works.

The report of the Board of Health for the quarter ending March 31st, published July 26th, shows that during the first three months of the year the number of marriages in this city was 4877; births, 12,608; deaths, 9436. During the quarter 162 persons committed suicide, 55 of them by taking carbolic acid, 34 by shooting, 30 by inhaling gas, 17 by hanging, and the others by stabbing,

drowning, leaps, and poisons of various kinds. Of the 162 suicides 117 were men and 45 women; 62 were natives of Germany, 49 of the United States, 10 of Ireland, and the others were of various nationalities.

MEDICAL MATTERS IN PHILADELPHIA.

FREE ANTITOXIN FOR THE POOR—NEW BUILDING OF THE JEFFERSON MEDICAL COLLEGE—EXAMINATION OF NAVIGATORS FOR COLOR-BLINDNESS—NEW PHYSICIANS IN THIS STATE—ENTERIC FEVER AT CAMP MEADE—SMALLPOX NEAR PITTSBURG—AN EPIDEMIC OF ANTHRAX—LEHIGH VALLEY MEDICAL ASSOCIATION—HEALTH REPORTS.

THERE has been such a perceptible increase in the prevalence of diphtheria in this city during the last few weeks that the Board of Health has decided to take practical measures to prevent, if possible, the further spread of the disease by offering to supply antitoxin free of charge to all physicians who may require it for use in their practice among the poor. A circular letter to this effect, signed by the president of the Board, was sent to all physicians of this city last week, and a supply of diphtheria antitoxin is now kept at the various district police stations, at the disposal of the medical profession at large.

The new building of the Jefferson Medical College, which has been under construction during the past fifteen months, is now practically completed and will be formally opened at the beginning of the fall term of the school next October. It is intended to make this occasion one of significance in the history of the institution, in that it marks the first practical step in the entire reconstruction of the college. The exercises will be presided over by Dr. T. Addis Emmet of New York and the principal address is to be delivered by Dr. Phineas S. Connor of Chicago. Distinguished members of the medical profession are expected to be present. The building which has just been completed is situated at the corner of Tenth and Walnut streets, and has a depth of 118 feet and a frontage of 107 feet. It is of Italian Renaissance architecture, five stories in height, and constructed chiefly of brick, limestone, and terra cotta, with a steel skeleton. The old hospital will next be torn down and a modern edifice erected corresponding in design to the new college building which it will immediately adjoin.

Under an act of Congress passed at its last session, and which went into effect the first of this month, the medical officers of the United States Marine Hospital Service in this city are engaged in examining for color-blindness the captains and mates of all sailing craft of more than 700 tons register hailing from this port. This examination is preliminary to the examination by the port authorities for navigation licenses, and such licenses will be refused to applicants failing to present certificates from the Marine Hospital surgeons to the effect that the holder is not affected with color-blindness.

The statement just issued by the State Medical Examiners, giving the results of the recent examinations for licenses in this State, cannot fail to reassure the public that there will be no dearth of doctors in Pennsylvania this year at least. Of the 425 applicants examined, 375 were successful, and were duly granted licenses to follow their chosen profession in Pennsylvania. Apropos of this question, it is of interest to reflect upon the fact that the share which each member of the State Examining Board derives from his labors in conducting these examinations has been approximated at no small sum. At $25 each, the present fee which each candidate must pay for examination, the total amount to be divided among the members after expenses have been paid cannot be far from the sum of $10,000. And it cannot be remarked in seriousness and truth that the examiners' labors are particularly onerous. This is one instance, and a rare one at that, in which the medical man is not underpaid and as such is unique.

Current reports speak of an outbreak of enteric fever among the recruits at Camp Meade, the large army camp of instruction a few miles from Harrisburg. Major Woodruff of the Army Medical Department who is in charge of the medical matters there attributes the outbreak to infection brought to the camp by new recruits, and states that as everything in the camp is in excellent sanitary condition no fear of the spread of the disease exists. With echoes of the deplorable epidemics at Camp Alger and Chickamauga last summer still ringing in its ears the War Department has by this time undoubtedly learned and *heeded* the lessons of camp sanitation and will take steps to insure the healthfulness of present mobilization points for troops such as Camp Meade.

Smallpox is rife in several parts of Pennsylvania, especially in the small towns and villages in the neighborhood of Pittsburg. In that city and in Allegheny sporadic cases are becoming too numerous to be ignored, and the prevalence of the disease in other nearby communities is thought by some of the Western health officers to threaten an epidemic next winter unless immediate measures are taken to stamp out the malady wherever is now prevails and by strict quarantine prevent its transmission from town to town. Dr. R. L. Taylor of Pittsburg who represents the State Board of Health in that vicinity and who has just completed a tour of inspection in the Western end of the State, is quoted as saying that smallpox in this section exists in almost every village along the line of the Pittsburg, Cincinnati, Chicago and St. Louis Railroad, the majority of the patients being either concealed by their relatives or the disease improperly diagnosed by the local physicians. An urgent appeal has been made to the State authorities to act in the matter, and to provide sufficient funds to end the epidemic.

An epidemic of anthrax has broken out among the live-stock in Bedford County, and it is also reported that two men have been infected with the disease. The outbreak is attributed to the importation of hides, infected with anthrax, by the Leather Trust, which operates tanneries in this county. Dr. Leonard Pearson, State Veterinarian, is investigating the situation.

The nineteenth annual meeting of the Lehigh Valley Medical Association was held at Glen Summit, July 27th. Sixty-five members were in attendance. The election of officers for the ensuing year resulted as follows: Presi-

dent, Dr. Israel Cleaver of Reading; vice-presidents, Drs. C. P. Knapp of Wyoming, J. H. Halber of Pottsville, O. H. Sproul of Flemington, and A. A. Seen of Bangor; secretaries, Drs. Charles McIntire of Easton, and W. P. Walker of South Bethlehem; treasurer, Dr. Abraham Stout of Bethlehem. The retiring president Dr. J. H. Bauman of Telford delivered an address on "Tuberculosis," and Dr. W. L. Rodman of Philadelphia read a paper on "The Early Diagnosis and Treatment of Tumors of the Mammary Gland."

The total number of deaths occurring in Philadelphia during the week ending July 29th was 481, of which number 112 were of children under five years of age. During the week the reports of contagious disease were as follows: Enteric fever: 43 new cases, 8 deaths; Scarlet fever: 41 new cases, no deaths; Diphtheria: 43 new cases, 10 deaths; Cerebrospinal meningitis: 1 new case, 1 death. The total number of deaths is a decrease of 29, compared with the number reported last week, and an increase of 16 over the corresponding period of last year.

CORRESPONDENCE.

DECOMPOSITION OF CHLOROFORM BY AN OPEN FLAME.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—$COCl_2$, phosgene gas, not chlorin, is produced by the influence of flames upon chloroform vapor. This effect I discovered and described many years ago. It causes tickling in the throat and in many, nausea and vomiting. This, to correct Dr. Winslow's statement, cited in the MEDICAL NEWS of July 1, 1899, page 13, relative to poisoning from chloroform decomposed by an open flame.

M. HARTWIG, M.D.

BUFFALO, N. Y., July 25, 1899.

THE APPLICATION OF THE "ROD METHOD" IN AUSCULTATION OF THE LUNGS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In the MEDICAL NEWS of July 8, 1899, I directed attention to a simple method of measuring the intensity of the heart tones. The method in brief consisted in the introduction of a rubber rod into the pectoral end of the stethoscope. The length of the rod determines the intensity of the cardiac tones, the latter becoming less distinct as successive rods of increasing length are employed. In my previous communication I advocated the method in its application to the heart tones. My investigations since then demonstrate the practical application of the "rod method" in auscultation of the lungs, not only as a means of measuring the intensity of the acoustic lung phenomena as in the case of the heart tones, but for purposes of diagnosis.

A simple illustration will suffice. We will presume that in auscultating the apices of the lungs some slight difference is noted in the respiratory sounds between the two sides. This difference may consist only in an increase in the loudness of the vesicular murmur, yet our stethoscope *per se*, is too gross an instrument to depend on in establishing this difference. In instances like this, and they are not infrequent, the "rod method" possesses insuperable advantages. If through a rod, let us say ten (10) centimeters in length, the vesicular murmur is conducted to the ear of the auscultator, whereas with the same rod the murmur is inaudible on the corresponding side in the same area, we are justified in concluding that in one of the apices there is an exaggeration of the vesicular murmur. This is a rough, though not impracticable, method of diagnosis. ALBERT ABRAMS.

SAN FRANCISCO, July 19, 1899.

[Translation.]

SEPARATION OF THE AMNION AND CHORION.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I have read with great interest the article by Dr. J. B. Nichols, on the separation of the chorion and amnion, published in the MEDICAL NEWS for July 1, 1899, I have been much interested in this question, and have published a memorandum regarding it in my work on obstetrics, volume 2, pages 378 and 423. To this description I would refer one for further information on the subject.

I explain the separation of the amnion and the chorion in the following way: During labor the chorion partially ruptures at the uterine orifice, and the pocket of waters formed by the amniotic membrane is forced through the ruptured chorion, forming a hernia. Drawn down and contracted by this hernia the amnion is peeled off from the chorion, and if this peeling off continues long enough, of course, the membranes are completely separated, one from the other.

I think that this explanation, which, it seems to me, was unknown to the author of the article, may be of interest to him as well as to others of your readers, which is the reason I have written you.

I beg you to accept the assurance of my kindest regards.

DR. AUVARD,
Accoucheur de l'Hôpital Saint Louis.

PARIS, FRANCE, July 20, 1899.

NORMAL SALT SOLUTION ENEMATA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In his article on shock, published in the MEDICAL NEWS for February 25, 1899, Dr. Dawbarn lays great stress on the use of normal saline solution intravenously. His point is well taken, that too little attention is given by the majority of operators to the care of the patient after operation. For the past three years in my hospital practice it has been a routine method with me of ordering a hot nutrient-stimulating enema after every abdominal section as soon as the patient has been returned to bed. In many cases the enema has been ejected during the restless recovery period from anesthesia, and in this event the orders to the nurse were to repeat it as soon as the restlessness had passed off.

This practice has undoubtedly been serviceable and a life-saving measure in many cases.

For more than twenty years I have been in the habit of using simple warm water by the rectum in all cases of severe loss of blood from whatever cause, and the absorption has always been fairly rapid, but not comparable to that of normal salt solution. The latter was interdicted even in the half-per-cent. strength for fear it would induce action of the bowels. When various statements were made in regard to the rapid absorption of the normal salt solution by the tissues I considered the advisability of substituting this for the nutrient enema and giving it in large quantity, but, like the nutrient enema, it was given during the recovery period and was rejected, yet very much less frequently, and it certainly acted more promptly. Yet even when thrown very high up in an empty bowel it would be rejected during the period of recovery-excitement, even though constant pressure was made to the fundiment. When retained absorption was very rapid.

During my last term of service at St. John's Hospital (March, April, and May) I decided to order as a routine practice 8 ounces of saline solution before the patient left the operating-table so as to insure absorption before the restless period of returning consciousness should supervene. This has worked with perfect success, as I have not known an instance in which the solution has been rejected by the rectum when thus administered. During this service it was used in between fifty and sixty instances in which capital operations had been performed. In three apparently hopeless cases in this term of service I attribute the recovery almost entirely to the use of the saline enema. In these cases the quantity used in half an hour amounted to three or four quarts.

In ordinary cases the 8-ounce enemas are repeated every two hours for at least sixteen hours after operation, and longer if the patient's condition seems to require it. If nothing else could be gained by the use of the saline enema the mitigation of post-operative thirst would be a full and sufficient reason for giving them. The same object is gained by the intravenous use of the normal saline solution, and before I became sure of the *rapid* absorbing power of the rectum and large intestine for the saline I was in the habit of using it by the brachial vein. Now I use both in desperate cases.

About eighteen months since, after a very extensive abdominal section, the patient became pulseless at the wrist. I opened the median basilic vein, and per cannula, introduced into the circulation in the course of an hour and a half, 2½ quarts of the normal saline solution. This was prepared at a temperature of 115° F., but in passing through the tube it loses 10° of heat and probably enters the circulation at a temperature not higher than 105° F. Should it enter at a higher temperature it would do more harm than good. In the case above referred to 4 quarts were given by the rectum in the same period of time. The patient made a good and rapid recovery, having no bad symptoms after her recovery from the shock. The beauty of the rectal method of administration is the rapidity with which it can be administered.

The patient will have absorbed a quart of solution by the bowel before the cannula can be gotten ready, the arm prepared, the vein opened, and the cannula introduced. The tube, bag, saline, and the *rectum* are always ready for instantaneous use and no operation is required. If the patient has been properly prepared the bowel is always empty and ready to absorb a fluid with the proper osmotic properties which the normal saline solution undoubtedly possesses.

GEORGE G. HOPKINS, M.D.
350 WASHINGTON AVE.,
BROOKLYN, July 20, 1899.

OUR LONDON LETTER.

[From Our Special Correspondent.]

SUPERSTITION AS TO "UNCLEANLINESS" AT THE MENSTRUAL PERIOD—SPITEFUL ARREST OF A DOCTOR—NEW CHARTER OF THE ROYAL COLLEGE OF SURGEONS—PENSION TO MRS. KANTHACK—"POISON BY POST" SENTENCE—HOSPITAL FOR PAUPER CONSUMPTIVES—DEATH IN THE STOKE-HOLE OF A MAN-OF-WAR.

LONDON, July 24, 1899.

THE University of London, with its prospect of a really high-class medical school for the metropolis, with a Post-Graduate and Research Department, has materialized sufficiently to obtain suitable buildings the past week at the Imperial Institute. This is a splendid building just north of the Natural History Museum at South Kensington, which had become a white elephant on the hands of the Government, so that all parties are pleased by the decision.

A curious superstition has just been revived here by quotations from an Australian paper, which objected to the admission of women physicians to the staff of a certain hospital on the ground that "at certain physiological periods" they become "a source of danger" to surgical patients. It actually goes on gravely to state that Lister, in his earlier experiments, was completely baffled in his attempts at antisepsis by this malign influence exerted by the nurses at certain times and that it was only by "carefully watching for and eliminating" this that success was attained, all of which is, of course, pure legend and shows how hard superstitions die. A belief of this sort is widely spread among the laity and probably owes its origin to the religious ordinances of various cults, according to all of which a woman, during her menstrual flow, is ceremonially unclean, and in some communities compelled to isolate herself completely.

A member of our profession has just had the honor of a special mention, indeed an entire debate to himself in Parliament, though whether the distinction was worth what he paid for it is more than questionable. Dr. Lamont of South Uist, Scotland, a medical man who some years ago attracted wide attention by his devotion and bravery during a frightful epidemic of typhus, staying to nurse his patients when even their relatives had fled, incurred the dislike of some members of his Board of Guardians (Supervisors). They watched for their opportunity with petty spite, and finding a child to whom he had given a certificate of vaccination, which did not show a well-marked scar, they had him arrested on a criminal

charge of issuing a false certificate, late on Saturday afternoon, so that he laid in jail all Sunday. When brought up for trial the jury acquitted him at once and the bringing up of his case in Parliament by our leading medical member, Sir Charles Cameron, aroused such a storm of indignation from both sides of the House that not only the Lord Advocate or Attorney-General for Scotland, but also Mr. Balfour himself promptly declared that the local law-officers should be severely censured and the question of adequate compensation to Dr. Lamont be carefully considered.

The election at the College of Surgeons resulted in both the "provincial" (non-Londoner) candidates being defeated and both the London ones elected, which is a fair sample of the onesidedness and petty prejudice of the Fellows, most of whom are London consultants. This reduces, we believe, the representation of all England outside of London upon the Council to three members.

At the annual meeting of both Members and Fellows the President, Sir William MacCormac, presented the draft of the proposed new charter, which completely ignored the reasonable demands of the Members for a voice in its affairs and begged the latter with Pecksniffian and almost tearful pathos not to raise any captious objections for fear of disturbing the harmony of the coming centenary. This gauzy plea which meant the deferment of any justice to Members until the Council chooses to ask the crown for another charter, say about the next centenary, hoodwinked nobody and the meeting promptly voted by a large majority to return the proposed charter to the Council, with a request to enlarge its powers in accordance with a memorial which would be presented. As, however, under the present intentionally oligarchic charter only the Fellows have votes or can sit in the Council and they are extremely loath to admit any one else to share in their ancient privileges, just or unjust, the chances of any reform being effected are but slight.

The Government has granted a Civil List pension of $300 a year to the widow of the late Professor Kanthack, the brilliant young English pathologist who died a few months ago at Cambridge.

Under the new Compensation Act the accidents in factories, quarries, and mines, still continue to increase, 780 fatal ones in the past eleven months, as against 612 for the corresponding period a year ago. Most of this, however, is believed by the Home Secretary to be due not to increased recklessness on the part of the men, but to the improvement of trade and consequent greater pressure of work or larger number of new men employed.

Both the experts who examined Mary Ansell, hung last week for the poisoning of her sister, declared themselves unable to find any ground for regarding her as insane, and as against the statement of Drs. Nicolson and Brayn, both of Broadmoor Asylum, there is nothing to be placed except the mouthings of that spectacular alienist, Forbes Winslow, who was sure she was a "degenerate" without ever having examined her. Public opinion generally acknowledges the justice of the sentence. Almost the only exception is the well-meaning but unbalanced *Daily Chronicle*, which came out with an editorial shriek a column long, protesting in tones that remind us of our own transatlantic hysterics on the same subject, against the execution of *any* woman, for no matter what crime! "Degenerate" is a very pretty term of such elastic application that it can be made to apply to almost any case, and like the bulk of the Lombroso-Nordau vernacular is of little more scientific value than "crank." Certainly it is utterly insufficient to base a plea of irresponsibility upon, in the case of a deliberate cold-blooded murder for a purely mercenary object. If this be "degeneracy" then it is an element which the law does well to assist in eliminating.

The tuberculosis crusade is spreading steadily. A few weeks ago the Poplar (London) Poor-Law Guardians applied to the Local Government Board to know if they had the power to establish a special poorhouse hospital for the treatment and care of pauper consumptives. For a wonder the central authority raised no opposition to a change and informed them that they had the power and might make a charge upon the Metropolitan Common Poor-Fund at ten cents per day for each patient. So a departure will shortly be made in the direction of establishing much needed homes of refuge for indigent consumptives. Even if it be only as a place where the poor creatures can die in comfort it will be an enormous boon, for, especially since the spread of the infection-theory, it has become a matter of great difficulty, for not merely poor but even moderately well-to-do patients who have no family or home of their own, to find a place in which they can die in peace. We have known wealthy sufferers in the last stages driven out of room after room, house after house, the moment their condition was discovered, and Dr. Trudeau of the Adirondack Sanitarium stated two years ago that next after hospitals for the early stages the most crying and even more pitiful need was homes of refuge for the hopeless cases. Many a poor fellow has come to him, and with tears in his eyes, begged to be told of some refuge where he could purchase the privilege of dying in peace.

A sad case has just been reported from one of the ironclads of the Reserve Fleet at Torbay. A stoker, named Finn, joined the ship July 6th; two days later complaint was made that he was not keeping up his fires properly. On being reprimanded he said that his "heart was bad," whereupon he was brutally told that he must either see a doctor or do his work like the rest. He chose the latter and inside of an hour was found insensible in a coal-bunker and died the same evening. The temperature in the stoke-hole was *only 109°* F., which is considered "cool" on an iron-clad, according to the Chief Engineer!!

These stoke-holes, not only on iron-clads but also in Atlantic liners, have long been a disgrace to civilization, and it is high time the law interfered, first to insist upon some arrangement for a current of cool, fresh air, and second that no man should be allowed to enlist as stoker without a medical certificate of entire soundness of heart-valves. Several instances are now on record in which young fellows anxious to work their passage have joined the crew as shovelers and died on the voyage from the heavy work in heat and foul air.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

CHYLOTHORAX, TRAUMATIC, AND SIMPLE—TROPICAL ANEMIA AND ITS RELATIONS TO MALARIA—MODERN OPERATIONS FOR UTERINE MYOMATA.

AT the Free Union of Surgeons of Berlin, May 8th, HAHN spoke of a case of chylothorax occurring in a man who was run over. Difficulty in breathing followed, and dulness on the left side of the chest. Aspiration gave exit to a rosy-red fluid, which afterward became milk-white. During the forty-two days that elapsed before the man's death thirty-six liters (quarts) of fluid were aspirated. The autopsy showed a fracture of the eighth and ninth ribs, and dislocation of the seventh rib and of the cartilage between the ninth and tenth vertebræ. The tear in the thoracic duct was demonstrated by injection. Eight cases of traumatic chylothorax, five of which terminated in recovery, have been previously reported. Often the accompanying injuries have been so severe as to make recovery impossible. Chylothorax of a non-traumatic character has also been reported, but as far as known has only twice been followed by recovery. In both of these instances it was due to pressure of tubercular or syphilitic lymphatic glands upon the thoracic duct.

At the Berlin Medical Society, May 31st, PLEHN spoke of tropical anemia and its relations to latent and manifest malarial infection. Europeans who go to tropical countries often suffer from symptoms of anemia without being really sick. This has been explained as a period of acclimatization, but no one has offered an explanation as to the pathological processes which occur, and exact comparison of the number of blood-corpuscles, of percentage hemoglobin, and specific gravity of the blood, in foreigners and in natives have been said to show that no anemia exists in the sense that the older writers supposed. The pale color of the skin has been thought to be due to the care used in avoiding the sunlight. Entertaining these views Plehn was not a little surprised to find that the new comers in Kamerum, on the West coast of Africa, did show a diminution in hemoglobin up to twenty per cent. soon after their arrival, or in the first month or two. Later there was a rise followed by a fall, or the amount varied from time to time until the period when malaria developed. Continuing his investigations for two years he made nearly 2000 examinations of the quantity of hemoglobin, of the specific gravity of the blood, and of the microscopic appearances of the blood. As to treatment he found that iron had no effect on the anemia. Arsenic improved the appetite somewhat, but produced no other effect. In many cases the regular use of quinin every five days did much good. A change of air from the coast to an inland station is beneficial, although in profound anemia it is not advisable to take a patient direct to high mountains.

As the anemia in both Europeans and coast negroes is not to be attributed to the climate, and does not come in the wake of any severe illness, it must be supposed to be due to some specific cause. Plehn found changes in the blood-corpuscles in almost every person affected—both native or European. Stained with acid alum-hematoxylin-eosin the corpuscles showed a number of deep blue points, and similar bodies were found free in the plasma or in pairs or short chains. These bodies increased in size and number until the individual was attacked with malaria. Immediately afterward they were scanty or failed altogether, even though the patient received no quinin. Later they reappeared, and were sometimes found months or even years after the individual had passed from the sphere of malarial influence, or had shown any symptoms of malarial fever. Apparently they reproduce themselves in the blood. Plehn looks upon the bodies as the seeds of the malarial parasites, which by development in the red blood-corpuscles lead to the destruction of the latter. Under favorable circumstances they develop into plasmodia and produce a malarial attack—a life history which can be observed microscopically if the observer has the good fortune to examine the blood two days before the first attack. The development of the parasites is closely analogous to that of the pyrosoma bigeminum of Texas cattle fever. Plehn believes that the different forms of malaria have one common cause. He also rejects the idea of different varieties of black-water fever. As the latter shows a strong tendency toward recovery without treatment it is not necessary to administer quinin to patients suffering from it. Still as quinin or enquinin is the only remedy in malaria, its use ought not to be omitted in malarial attacks for fear that black-water fever will follow. He expressed himself as against the mosquito theory on the ground that the half-moon-shaped form of parasites is the only one carried by mosquitoes, and parasites of that form were very rare in his region.

At a meeting of this Society held June 7th, CZEMPIN spoke of modern operations for uterine myomata. Many physicians are still prejudiced against them on account of the high death-rate which followed operation ten years ago, and also because they trust too much to the benign character of the tumor. These tumors not so infrequently undergo malignant degeneration. Moreover, the hope that symptoms will disappear at the climacteric is often illusory.

Of the vaginal operation, enucleation is easy if the myoma is polypoid; permissible, if more than half of its back lies in the uterine cavity, but is bloody and dangerous otherwise. Vaginal hysterectomy is too well known and liked to need an advocate. It had better not be employed if the enlarged uterus is too great to pass the vagina without cutting it into pieces. Certain operators have had brilliant successes to record from morcellement and vaginal hysterectomy, but there have been many lives needlessly sacrificed by this method.

Of the abdominal operations, enucleation with suture of the surrounding tissues may be performed for one nodule after another, so that the uterus may be left even in rather complicated cases. Such a procedure has its limits, however, and a very much torn-up uterus had better be removed, especially as one has no guarantee that other rudimentary nodules will not grow forthwith. In the early days of abdominal hysterectory the cervix was left as a pedicle, on account of fear of hemorrhage and sepsis. Now it is known that it carries its own dan-

ger in the shape of necrosis produced by ligature to control hemorrhage. Most operators are therefore agreed upon its removal, either abdominally or vaginally, after the closure of the abdomen. The results of supracervical amputation are better now than they were in the days when aseptic technic was less perfect, but they are still much inferior to total extirpation and must ever remain so.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK.

Regular Monthly Meeting, Held March 25, 1899.

THE President, DR. HENRY C. COE, in the Chair.

The paper of the evening, on

ACUTE PURPURA HEMORRHAGICA,

by DR. S. K. BREMNER, owing to the author's unavoidable absence, was read by the Secretary, DR. J. B. WALKER. The author accepts the classification of acute purpura hemorrhagica, suggested some time ago by Lockwood, into essential and sympathetic. Most of the cases come under the latter head, the symptoms being due to certain drugs, as quinin, iodin, arsenic, and the salicylates, and to various infectious diseases, as diphtheria, smallpox, and the exanthemata generally. The following case would seem to come under the head of symptomatic purpura: A child, six months old, breast-fed, who had constantly gained in weight, began to fail. Then a hemorrhagic spot appeared on the occiput and another on the bridge of the nose. The day these were noted the patient's temperature was 99°, the next day it was 101°, then 102° F. The bowels were irrigated with the idea of preventing the further absorption of toxins from the intestine, if this was a cause of the hemorrhagic condition, and also to eliminate certain toxic substances from the blood by increased exosmosis. The child grew paler from day to day and the purpuric spots grew larger and more frequent. Some blood was vomited and some blood-clots and clear blood passed by the rectum. Great prostration supervened on these losses of blood, and finally death occurred from exhaustion. The urine had continued normal during the whole course of the affection. The autopsy failed to show intracranial hemorrhagic lesions, or ulcers of the gastric or intestinal mucous membranes. There was a good deal of congestion of the lower parts of the lungs.

The whole picture, clinical as well as anatomical, was that of an infectious disease. There was the invasion after prodromal weakness and malaise, the progress to an acme followed by exhaustion, and then the absence of any serious organic lesions, at autopsy. Under the term purpura hemorrhagica are probably included a series of different infections which act upon the blood and the blood-vessels so as to allow diapedesis. It is in the blood that observers have looked for bacteria in this disease and their search has been rewarded by finding various micro-organisms. A bacillus looking not unlike the bacillus of anthrax and one resembling the bacillus aerogenes capsulatus have been found. At times several microbic varieties have been found in the same case, and it is possible that the disease is polymicrobic in origin.

The microbes may produce the purpuric lesions directly, as by acting on the walls of the blood-vessels in a particular region, or they may be due to a toxemia, the toxins produced by bacteria causing changes in both blood and solid tissues. That the disease is contagious seems clear since it occurs in groups in hospitals and in at least one recorded instance a brother and sister suffered from it at the same time.

The changes in the blood are quite marked. Clot formation is different from the normal, and this may be partly explained on the ground that the hematoblasts are more infrequent than in normal blood, for it is now generally recognized by physiologists that these play an important part in clot formation.

Treatment in the case of children as a rule seems of little avail. A number of remedies have been recommended, of which most is claimed for iron and general tonic treatment. Whatever of benefit was derived from drugs in the case reported was from these remedies. Ergotin has been used with success.

It is claimed that patients have been cured by the injection of 250 c. c. of serum, by the administration of thyroid extract, and by hypodermic injections of ergot. In general, however, it is admitted that the disease in children is usually fatal despite all remedies.

In the discussion which followed DR. HOLDER said that he had seen a good many cases of purpura on Randall's Island. In adults quinin seemed to do good, but in children the affection nearly always proved fatal no matter what line of treatment was adopted. A great variety of remedies had been employed. As in none of the cases were any purulent conditions observed it would be extremely hard to imagine that pyogenic micro-organisms, as so many have claimed, could be the cause of the disease in all cases.

The reason why the adults improved under the use of quinin seemed to be because malaria was the cause of the purpura, the changes induced in the blood by the malarial parasite being sufficient to permit hemorrhagic exudation in spots, which characterizes the disease. Quinin was given freely, *i.e.*, in doses of from 20 to 30 grains a day, according to the individual.

In the case of the children there was evidently some other cause at work, for the quinin did not have the same therapeutic effect. The disease seemed to have a tendency to occur in groups and to affect especially a single ward at a time so that there was little doubt of its contagiousness. It bore very interesting relations to pemphigus which also occurred epidemically on Randall's Island. Some time ago a doctor and two nurses had been infected by the contents of some blebs and had had a characteristic attack of the disease but had recovered without at any time having manifested serious symptoms.

Therapeutic experience on the Island had rather fostered the idea that there is no specific medication for these hemorrhagic conditions in children. A good many different remedies reported to be successful in the hands of others had failed to give the desired results there. So-

called hemostatic and hematogenic remedies seemed to be effective only inasmuch as they were also tonic in action. General tonic treatment seemed to do the most good. Quinin, in doses of 10 grains or more, three times a day, seemed the best routine treatment, the indication seeming to be to cinchonize the patient as soon as possible, and to keep him in a mild stage of cinchonism for some time.

DR. ROYAL WHITMAN said that it is very necessary to differentiate cases of scurvy from purpura. Joint pains, in addition to the hemorrhages, seem to occur in both. Of late many cases of scurvy had been reported as the result, not of feeding children on the patent foods, as used to be said, but from keeping them too exclusively on a diet of sterilized milk. The cure of these conditions as a rule is comparatively easy. All that is necessary is to change the patient's diet to one of raw or modified milk. It is almost marvelous to see the change that comes over most of the little patients even after only a single day of the alteration of the diet. In some cases this scorbutic condition seems to develop even in children that are fed at the breast. In these cases additions to the diet are needed.

DR. SCHRAMM, who reported two cases of purpura hemorrhagica in detail, said that he also had seen cases of scurvy after an exclusive diet of sterilized milk. The longer the milk had been heated, as a rule, the worse have been the cases, and they had been a shorter time in developing. Mothers, when told to heat the milk, usually concluded that the longer it was heated the better it was and the surer not to effect the child's health. A good deal of sickness and malnutrition among infants seems due to this cause.

Meeting of April 22, 1899.

The paper of the evening was read by DR. PALMER C. COLE and was entitled

ACUTE PURPURA HEMORRHAGICA IN THE ADULT. REPORT OF A CASE OF POISONING BY SPIDER-BITE IN THE ADULT.

The case of acute purpura the speaker reported was the only one he had had the misfortune to see in more than forty years of practice. The patient was a robust and seemingly healthy individual, forty-three years of age, who had spent the hours from 8 to about 11 one morning in cleaning out a rather deep tank that had not been used for three or four years. He had then quit work because he felt weak and was nauseated. He had not been completely overcome while in the tank and had been able to help himself and find his way out. At noon he vomited a number of times and felt so weak that he took to his bed. He did not undress, and after taking some whisky seemed to feel better. There was a recurrence of nausea after a time and he grew weaker, so that shortly after 2 P.M. he sent for a physician. The speaker saw him before 4 P.M. and found him rather dull and heavy in mind, not easy to arouse, but when aroused able to answer all questions intelligently.

The important thing about his appearance was the presence of a number of petechiæ, some of them of large size. There were bright hemorrhagic spots on his groins and thighs, some of them as large as two or three inches in diameter. A number of spots of the same kind were noted on his mucous membranes also. Apparently nothing seemed able to arouse him from the gradually deepening lethargy into which he sank. The hemorrhagic spots continued to increase in number and size and at 8.30 P.M. the patient died. A consultant who had been called in confirmed the diagnosis of acute purpura hemorrhagica, probably due to the inhalation of some poisonous gas while working in the disused tank.

The Board of Health made an investigation into the cause of the accident, but was unable to discover it, although it was considered by its experts also that some noxious gas or gases was the cause. It would seem reasonable to conclude, then, that the blood-dyscrasia that leads to the appearance of purpuric spots may be brought on in fulminant form in seemingly healthy individuals by the respiration of mephitic gases. This may help to throw some light on the slower running cases, and seems to indicate that in ordinary cases the hemorrhagic symptoms are due to toxins absorbed from the gastro-intestinal tract or from some focus of infection and that treatment should be directed by this indication.

The case of spider-bite was a personal experience of the speaker and was serious enough to dispel any doubts he might have had as to the verity of certain at least of the reported cases of extremely bothersome and threatening symptoms following spider-bites. In the tropics there is no doubt that spider-bites are frequently followed by serious consequences, though they are seldom or never fatal. Of late years we have learned that insects may be the carriers of disease germs, even though not themselves possessed of noxious qualities. The unfortunate experience in our camps during the late way with Spain showed that the ordinary horse-fly may be a most prolific carrier of disease germs from latrines, etc., and distribute them widely with serious consequences.

It has long been known that anthrax or malignant pustule can be and often is caused by the sting of the blow fly. In this case the insects seem able to carry the most deadly ptomains from the carrion on which they have been feeding, and inoculate their victims with serious, often fatal results. At first the possibility of such extremely virulent toxins being carried by insects was doubted and the connection between the bite and the resulting disease was looked upon as merely incidental, but experimental observations have confirmed it so often in recent years that there is no longer room for doubt as to the agency of insects as carriers of infective material.

Stories of spider-bites, with serious or even fatal results, have appeared so often in the newspapers, to be denied later, or at least to prove guiltless later of the essential elements of substantiation, that people generally, even physicians, have come to look upon them as bits of sensation unworthy of credence. The writer said that he was very glad to be able to detail his personal experience with a spider-bite that produced very serious symptoms and might easily have been worked up into a most sensa-

tional bit of news, the main facts of which, however, would have been substantially true.

About nine o'clock of a summer evening, while sitting on the piazza of his residence, he felt a sharp sting over the region of the first joint of his little finger. The stinging sensation continued for some time and was so severe that he examined the spot with a lens, but noticed nothing special except a slight redness. He applied a few drops of ammonia fortior and the pain grew less. He slept well but was wakened early by the pain which could now be felt throbbing and shooting up the back of the hand. The redness had increased in size and had now become an areola with a whitish dome in the center. In the midst of the white parts, by the aid of a hand lens, two black specks could be seen, which proved to be the claws of the spider. They were removed with pincers and on careful examination with the lens were seen to be jet-black, highly polished claws, and with no signs of extraneous material on them. There seemed to be serum in the whitish elevations, but incision for it was not successful.

During the day, while slightly painful and tender, there were no further symptoms from the sting, but on the second morning he was distinctly ill with constitutional disturbance, lassitude, and loss of appetite. The inflammation extended to the wrist by this time and there were some chilly feelings. A small incision down to the bone in the finger was made and a small amount of white inodorous pus was evacuated. The next morning there was a sharp rise of temperature and great constitutional disturbance, though the pain was no longer annoying. The inflammation had now extended up to the elbow and the hand and finger were laid freely open, being placed afterward in a bowl containing 1 to 1000 mercuric bichlorid, which was gradually reduced to 1 to 2000, and then 1 to 4000. The axillary glands became enlarged and the shoulder somewhat involved by spread of the inflammation to the soft tissues around it.

On the seventh day after the bite complete subsidence of all the symptoms took place and only the little finger remained painful and tender. Desquamation took place over the whole arm. The skin over and near the finger desquamated three times and the bite did not entirely heal for eight weeks.

The practical points in the case are its comparatively latent, slow progress for the first two days, then the fulminant character assumed by the symptoms on the third day, which diminished somewhat on the fifth day but did not disappear until the seventh day. The history of the case is not unlike that of malignant pustule. In that affection the point of infection is usually the upper lip and for the first two days, except for the swelling which is so prominent because of the character of the tissues here, and so annoying because of the abundance of sensitive terminal nerve endings in the part, there are no symptoms to speak of, then suddenly on the third day there is serious constitutional disturbance, a pyemic condition sets in and death may supervene suddenly on the fourth day.

All arachnidæ, even those in our temperate climate, have a poison apparatus by which they are enabled to quiet the struggles of their insect victims and protect themselves against a host of insect enemies. A minute droplet of venom is ejected from the poison-sac of which it takes but little to kill a fly. Ordinarily the deaths from spider-bites have been discredited, but the knowledge of these facts of natural history and the present case show the possibility of serious results even from simple spider-bites. Orfila, who has devoted a good deal of time to the study of spider-bites says that certain cases take on a septic character. It is evidently one of this class of cases that we had to do with here.

In answer to the question as to the variety of spider, and as to whether it was surely a spider, Dr. Cole said that the variety was not especially studied. Such a bite might have been produced by a small viper, but while spider-bites cause pain at the moment viper-bites do not. There had been an immediate stinging sensation that would have called attention to anything that caused the bite had it been other than a spider.

DR. FISK, in the discussion which followed, said that while a few insect bites of various kinds are treated in the out-patient department, as a rule, very few of them are of more than passing interest. Human bites are, however, not frequently followed by very annoying symptoms. In these cases it is evident that it is not any poisonous substance previously existing in the mouth that sets up the serious inflammatory disturbance, but that a living germ present in the flora of the mouth is inoculated into the wound at the time of its infliction, and finding in the tissues a favorable culture medium proceeds to multiply, with the production of the serious symptoms so often noted. These will depend on the pathogeneity of the germ introduced and may be only local in character, but may be and often are constitutional. In a recent case of this kind the wound had been received by the patient's hand striking against the other's teeth. This is not an uncommon way for the infection to be acquired and sometimes the inflammatory reaction set up spreads to the tendon-sheaths and ties up the tendons, laming the hand for life. Such cases need prompt and thorough surgical intervention. The site of the wound should be promptly laid freely open as soon as serious symptoms begin to manifest themselves. A great deal of annoyance and danger will thus be saved.

DR. MITCHELL said that snake poisoning had been treated most satisfactorily by means of permanganate of potash and he thought that perhaps in these cases the injection of permanganate around the seat of the lesion would be indicated.

DR. COE said that most of us had seen spider-bites without any serious results following and it would seem that in a case like the one reported some extraneous, perhaps septic, micro-organism had been inoculated into the tissues at the time of the insect bite. It seemed more rational to think this than to assume the injection of a very virulent poison that had lain practically dormant in the tissues for two days and then taken on suddenly and without any known reason a fulminant toxic character.

DR. COLE, in closing the discussion, said that it is the custom of medical authorities to discredit the reports of

spider-bites followed by serious symptoms. In the present case, however, every detail seems beyond cavil. It does not seem to have been a septic infection and it was certainly not due to ptomains gathered in decaying material by the insect. It must be remembered that there are in this latitude one or two species that are distinctly poisonous, more poisonous than the scorpion of the South though we are apt to think of scorpion bites as always fatal.

Dr. Dillon Brown reported two rare and interesting cases that had come under his observation recently. The first was that of a child of healthy parents which had always been healthy itself until it was attacked some months ago by an extensive dermatitis exfoliativa. Accompanying the dermatitis was a furunculosis and a good deal of itching. The appetite was good, the bowels regular, and no cause could be found to explain the origin of the cutaneous condition. It was not congenital but has developed during the child's second year, and there is absolutely no question of hereditary influence in the case. None of the various remedies recommended seemed to do any good. Oil baths slightly carbolized which was the last thing prescribed seemed to control the itching somewhat.

The second case was one of diabetes in a child, aged four years. The child had as high as six per cent. of sugar in the urine, and had the intense thirst and frequent and copious urination of typical cases of diabetes. Under an absolute meat diet all the symptoms disappeared, and no trace of sugar has been found in the urine now for over a month. The absence of glycosuria and of any symptoms of diabetes justifies the expression that for the time at least the child is cured. Dr. Rotch of Boston who had seen the patient in consultation advised the continuance of the absolute meat diet for some time.

In discussion Dr. Palmer Cole said that he congratulated Dr. Brown on the excellent result produced by the meat régime. Personally, however, he has no confidence in the persistence of the cure. Children, in his experience, affected by diabetes always die. Occasionally, but not often, much more rarely, for instance, than in adults, there are remissions in the course of the disease but they do not last long and the ultimate prognosis is absolutely fatal. While there is life there is hope, however, and as it is probable that certain cases of diabetes in children were missed in the past owing to defective examination of the urine it may be that some patients have recovered unbeknown as it were.

REVIEWS.

Gout: Its Pathology and Treatment. Founded on the Goulstonian Lectures on "The Chemistry and Pathology of Gout." By Arthur P. Luff, M.D., Lond., B.Sc., F.R.C.P. New York: Wm. Wood & Co., 1899.

We welcome this publication as a very valuable addition to our literature and predict for it a prompt and wide recognition. It presents the logical deductions from a long series of laboratory experiments, supported by a large clinical experience. The work is thoroughly original throughout. It is divided into four parts. Part I., reproduced from the author's Goulstonian lectures, deals with the pathogenesis of gout. A critical review of various experiments into the pathology of the disease and the theories based upon them prefaces a detail of the author's own experiments.

He develops the following facts: "Uric acid does not and cannot exist in the blood in the free state under any conditions whatsoever." "Sodium quadriurate is the soluble uric-acid compound which is originally contained in the blood" and, being an unstable body, "unites with some of the sodium carbonate of the blood to form sodium biurate which . . becomes deposited in the various tissues. . . The phenomena of gout result, not from overproduction, nor from diminished destruction of uric acid, but from its *deficient excretion*. This deficient excretion is due to a functional affection of the kidneys, which may subside or may develop into an organic lesion. In health, uric acid is formed in the kidneys, probably from urea and glycocine brought from the liver, hence the association of liver troubles with gouty dyspepsia. No constant ratio exists in a given individual between the excretion of uric acid and urea."

Part II. is devoted to the etiology of gout, its various clinical manifestations, their diagnosis and prognosis. It is disappointing in its brevity. Part III. details the author's numerous experiments on the influence of various bodily conditions, and of various foods and drugs on the solubility and precipitation of uric-acid salts.

These investigations were, for the most part, carried on in the laboratory but they are more rather than less convincing than unchecked clinical experiments. The results are rather startling and upset many accepted doctrines. The author thus unequivocally summarizes his findings The alkalinity of the blood is apparently not appreciably diminished during a gouty attack; the solubility of uric acid in the blood is not affected by a diminished alkalinity of the blood; the deposition of sodium biurate is not accelerated by a diminution of the alkalinity of the blood; an increased alkalinity of the blood does not increase the solubility of deposits of sodium biurate; the gout-inducing properties of certain wines are not due to their acidity; they probably owe their gout-inducing action to the effect they exercise on the metabolism of the liver; the solubility of sodium biurate is markedly increased by the presence of the *mineral constituents* of most vegetables; solubility of sodium biurate is diminished by the presence of the *mineral constituents* of meat; the mineral constituents of certain vegetables delay the conversion of sodium quadriurate into biurate; the vegetables most useful to gouty subjects are spinach, Brussels sprouts, French beans, winter cabbage, Savoy cabbage, turnip tops, turnips, and celery. He condemns the administration of the ordinary alkalies, of lithium salts, of piperazine, and of lysidine, with the object of removing gouty deposits as useless. The author finds that no relationship exists between the acidity of the urine and the alkalinity of the blood, and he thinks that the administration of salicylates with the object of removing gouty deposits

is useless, and their employment in the treatment of gout contraindicated.

The fourth part of the work deals with the practical application of the above and other principles to the treatment of gout in its various forms. Here, again, the author casts out, without further apology, all accepted therapeutic measures which his experiments have proved to be chemically or physiologically unsound. Topical applications or internal administrations, exhibited with a view to dissolve uric-acid deposits in joints are rejected because uric acid as such is not the gouty deposit, and sodium biurate, which is, does not react to uric-acid solvents. The chemical properties of natural mineral waters are discussed at some length, elucidating the value of each of the European springs in the alleviation of the various gouty conditions. We recommend Dr. Luff's little book for its originality, pointedness, and scientific merit.

THE MEDICAL COMPLICATIONS, ACCIDENTS AND SEQUELÆ OF TYPHOID OR ENTERIC FEVER. By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital. With a special chapter on the "Mental Disturbances Following Typhoid Fever." By F. X. DERCUM, M.D., Clinical Professor of Diseases of the Nervous System in the Jefferson Medical College. Philadelphia and New York: Lea Brothers & Co., 1899.

THE book before us is one that may be consulted with profit by all clinicians, dealing as it does with a subject of much importance to every active physician. The literature has been searched thoroughly and we doubt whether any complication of typhoid fever that might have escaped the author's personal experience has been omitted from the work.

The book is divided into seven chapters, the first chapter dealing with a general consideration of the subject, including several interesting statistical tables that show conclusively that typhoid fever is on the wane, both in its frequency and mortality. This is undoubtedly due to improved sanitation and our recognition of its etiology. The following chapters are devoted to the varieties of onset, the complications during the disease, the complications during convalescence, the conditions which ape typhoid fever, the duration of and immunity from second attacks, and the mental complications. Subdivisions are made to allow for the discussion of complications of the various organs.

In a future edition the question of immunity will very likely receive a more extensive consideration. So much is being accomplished in the field of immunity in an experimental line, that we trust the near future will place the whole question on a more rational basis.

The chapter on the mental complications by Dr. Dercum contains much of importance not usually to be found in text books. On the whole, the book is deserving of much popularity, written as it is by one who is entitled to speak with authority, and we heartily commend it to all practitioners.

THERAPEUTIC HINTS.

For Gastralgia.—

℞	Chloralis hydrat.	gr. xvi
	Sodii hyposulph.	gr. xl
	Aq. menth. piper.	℥ i.

M. Sig. One teaspoonful when indicated.—*Hare.*

For Prickly Heat.—

℞	Spts. etheris nitrosi, Magnesii sulphat. aa	℥ i
	Ol. cajuputi	*m.* i
	Syr. tolutani	℥ ii
	Aq. magnesii carb.	℥ ii.

M. Sig. One teaspoonful three times a day.

Tincture of Iodin for Acute Gastro-enteritis.—BIZINE highly recommends treatment by iodin in this affection both for adults and children. For the former he prescribes as follows:

℞	Tinct. iodi	gtt. xv
	Chloroformi	gtt. v
	Ol. caryophylli	gtt. vii
	Ol. menth. piper.	gtt. v
	Emuls. ol. ricini	℥ vi.

M. Sig. One tablespoonful every hour. Keep on ice.

When the chief symptoms have disappeared the above should be discontinued and the following given:

℞ Amyli iodat. . . . . ℥ i.

M. Div. in chart. No. VI. Sig. One powder every four hours.

If the symptoms are choleraic the following mixture should be given at once:

℞	Tinct. iodi	gtt. x
	Chloroformi	gtt. ii
	Ol. menth. piper.	gtt. iii
	Ol. ricini pur.	℥ v.

M. Sig. One dose

In addition hydrochloric-acid lemonade should be given and sinapisms and enemata employed if indicated. After abatement of the symptoms iodid of starch, as above, should be prescribed.

Diuretic in Chronic Interstitial Nephritis.—

℞	Ferri citratis	gr. lxxx
	Potassi citratis	℥ ii–gr. xl
	Syr. limonis	℥ i
	Aq. dest. q. s. ad.	℥ iv.

M. Sig. Two teaspoonfuls in water before each meal. —*Danforth.*

For Pseudo-Membranous Coryza.—

℞	Iodi	gr. iss
	Potassii iodi	gr. iv
	Ac. carbolici cryst.	gr. viii
	Tinct. opii	*m.* xv
	Glycerini	℥ iss.

M. Sig. For swabbing.—*Moure.*

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ORIGINAL ARTICLES.

SOME OBSERVATIONS AND CONTROVERSIAL REMARKS ON THE SPECIFIC CAUSE OF YELLOW FEVER.[1]

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THE writing of the present paper was suggested to me by certain articles that I have read in the MEDICAL NEWS during the past year and which seem to indicate that a personal element has obtruded itself into the controversy which followed the appearance of my articles on the etiology of yellow fever. This personal element has made itself felt especially as a result of the attitude assumed by Dr. Sternberg in opposing the definitive conclusions drawn from my researches. It is true that in a recent article he has seen fit to modify his position considerably but he has not as yet withdrawn his opposition to my bacillus icteroides as the cause of yellow fever.

I respect Dr. Sternberg very much and have expressed my sincere appreciation[2] of the researches directed by the most modern scientific technic that he inaugurated on the subject of this important affection, yellow fever. I cannot understand, however, his obstinate unwillingness to concede that another has succeeded in solving the problem which proved unsolvable to him.

The first reclamations which the illustrious surgeon-general thought it well to make immediately after the publication of my original investigations, and in which he endeavored to maintain the identity of the bacillus icteroides as described by me with his bacillus X, are easy to understand and are such as might have been expected under the circumstances. But now that the question of the etiology and pathogeny of yellow fever has entered definitively into the domain of anatomico-clinical observation and of laboratory experimentation I believe it impossible to bring it back to the old ground and condemn on theoretic objections scientific conclusions.

No one knows better than I do myself how much work Dr. Sternberg did in his fruitless search for the pathogenic agent in yellow fever. I can understand then, that he would not readily concede success to another when he had himself failed. If it is true, however, that the man of science labors for the good of humanity and not for the sake of any personal satisfaction, or for self-glorification, then every laborer in the field of bacteriology can only rejoice sincerely at the successful issue of my studies. Unfortunately, this has not been the case.

It is not worth while now to go back over the old attempts to prove that the bacillus icteroides and Sternberg's bacillus X are the same micro-organism. Even Dr. Sternberg himself finally persuaded by the evidence of the facts and by the unimpeachable character of my demonstrations[1] has definitely renounced the idea of their identity with a scientific loyalty that does him honor[2].

My eminent colleague, however, gets no farther than this. He has abandoned only the first part of his opposing opinion and while conceding that the bacillus X and my bacillus icteroides are not identical, he cannot bring himself to admit that the bacillus icteroides is the causative agent of yellow fever. It must be remembered in this connection, however, that Dr. Sternberg's work on yellow fever was done some ten years ago, and that the youthful science of bacteriology has made wonderful strides in progress in that time. It will not be surprising then, if what seemed impossible at that time to Dr. Sternberg should prove comparatively easy of attainment in our day. Advances in technical methods in bacteriology made the circumstances of his investigations and mine quite different.

I have stated once before[3] certain reasons why there was not much probability of Dr. Sternberg's isolating and recognizing the bacillary cause of yellow fever during his original researches in the neighborhood of Havana. These, for there were more than one, I shall briefly repeat. Primarily Dr. Sternberg clung firmly to the idea that the seat of the specific virus of the disease was in the intestine. He seemed to have been of the opinion so commonly held by writers at that time, that a certain pathogenetic analogy existed between yellow fever and Asiatic cholera, the discovery of whose germinal cause had been such a triumph only a short time before. The symptoms and intestinal lesions which are observed in the two diseases are certainly sufficient to impose such an opinion on the observer, if he looks no further.

[1] Translated.
[2] *Annales de l'Institut Pasteur*, p. 438, 1897.

[1] *Centralblatt für Bakteriologie*, No. 22–23, 1897, and No. 10 1898.
[2] *Centralblatt für Bakteriologie*, No. 18–19, 1899.
[3] *Centralblatt für Bakteriologie*, No. 22–23, 1897.

That Dr. Sternberg held this opinion is clear, since in his report to the United States Government[1] in his official capacity he submits as one of his conclusions a suggestion for the treatment of the disease by disinfection of the intestinal tract, an alkaline solution of bichlorid of mercury of 0.02 per cent. being employed for this purpose.

This erroneous prejudice as to the pathogenetic mechanism of the disease was sufficient without doubt to influence the whole course of his researches. For it is evident that Dr. Sternberg yielded to the preconceived notion at that time so generally accepted, that it would be possible to isolate from the contents of the intestinal tract a microbic form that would be constant for the disease.

An analogous mistake though in an opposite direction had been made just a little before that by Emmerich with regard to cholera in his studies on Asiatic cholera at Naples. Impressed with the idea then sustained by the whole school of Pettenkoffer, that this disease spread through the air, he sought unsuccessfully for the specific germ of the disease in the circulation. It was from the blood vessels of the walls of the intestine not from their interior that he succeeded in isolating a bacillus. Further investigation showed that his famous bacillus Neapolitanus was only one of the ordinary fecal bacilli, which had by chance penetrated the walls of the intestine during the lowered resistive vitality incident to the terminal stages of the disease and so secured an entrance into the circulation. It was only a secondary infective agent not the primary cause of the disease that the discoverer had demonstrated.

It is true that Sternberg besides his investigations of the contents of the intestines made a number of cultures from the blood and the viscera, but it must be conceded by any one who reads the report of these researches in the light of modern bacteriological methods, that they leave a great deal to be desired from the point of view of our present day technical knowledge. Especially is this true when we consider how extremely difficult was the task he had set himself.

As a matter of fact his report to the United States Government contains only a description of a long series of microbes, that had been isolated, some of them directly from the blood and the cadaveric tissues of patients dead from yellow fever, but most of them from the blood or viscera of rabbits or guinea-pigs inoculated with hepatic juice, or with small quantities of the most contaminated material obtained from the stomach or intestines of yellow-fever corpses. It is evident that there would inevitably occur in the results obtained with such a primitive and defective technic very serious lacunæ, and such proved actually to be the case.

It is clear that microbes isolated after this manner in numbers, without any constant rule or uniform method, and summarily inoculated into animals on general principles must fail of individual recognition, and that the importance and specific characteristics of the micro-organismal cause of yellow fever, though present, must escape even the most sedulous attention under the circumstances. The bacillus of yellow fever must certainly have occurred in Dr. Sternberg's cultures a number of times, but it escaped his notice owing to his defective technic.

Dr. Sternberg himself now admits that during his investigations in Havana "the autopsies on yellow-fever cases succeeded one another so rapidly that a complete bacteriological examination of every case was practically impossible"[1] and that "the arrangement of his laboratory was so incomplete that it was impossible to keep animals under observation for more than five or six days after inoculation." Under these circumstances it is not hard to understand how his mission to discover the cause of yellow fever should have completely failed of its purpose.

It would seem only reasonable, then, that Dr. Sternberg, instead of trying to justify his own failure by systematically belittling the results obtained by others, should, on the contrary, be ready to admit another's success and use his influence to make the discovery better known. This impression was reproduced very vividly on me recently in reading the short note by Reed and Carroll, which was published in the MEDICAL NEWS for April 29, 1899, for their work it is announced was inspired by Dr. Sternberg himself.[2] In their article these two writers abandon as unsustainable the idea that the bacillus X and my bacillus icteroides are identical. They seek by every means in their power to damage the reputation of the bacillus icteroides and set it down as a variety of the bacillus *choleræ suis!* It is certainly not in order to demonstrate the extreme strangeness and improbability of this opinion that I have undertaken to write a new article on the subject of yellow fever, but in order to bring out clearly and denounce the levity of the critical methods habitually employed by obstinate opponents of my discovery.

I find it totally inexplicable that Drs. Reed and Carroll before attempting to launch such a paradox did not at least look up for a moment some good treatise on bacteriology, or better still, consult the classical original work of their distin-

[1] "Report on the Etiology and Prevalence of Yellow Fever," Washington, p. 85 1890.

[1] *Centralblatt für Bakteriologie*, No 6-7, p. 147, 1897.
[2] *Centralblatt für Bakteriologie*, No. 18-19, p. 660, 1899.

guished compatriot, Dr. D. E. Salmon, published in 1889 by the Government Printing Office in Washington and entitled "Hog Cholera, Its History, Nature, and Treatment." Had Drs. Reed and Carroll taken the time to do this they would have been at once convinced of the absolute impossibility of identifying two micro organisms which are readily differentiated, even by the crudest methods, from every point of view morphological or biological.

It is sufficient to recall that the bacillus of Salmon forms on potato a luxurious brownish-colored culture somewhat like that of mauve, while my bacillus icteroides develops on potato completely without color and is scarcely visible; it is enough besides to remember that the toxin of the bacillus icteroides resists a temperature of even 100° C., while that of the bacillus of hog cholera undergoes modification as low as 60° C. and is entirely destroyed at 100° C. The two toxins exercise upon animals a pathogenic action entirely different, as is evident from the studies of Selander and Metchnikoff [1].

We may recall besides that colonies of the two forms of bacilli on gelatin plates are as readily differentiable even at first sight as it is possible for bacilli to be, and that in rabbits and guinea-pigs infection with the bacillus choleræ suis produces a large number of foci of coagulation necrosis (dirty whitish spots), which are absolutely specific for the micro-organism described by Salmon, while they are never noted in animals inoculated with the bacillus icteroides In regard to this matter Reed and Carroll make the following observation: "The lesions produced in rabbits and guinea pigs inoculated with bacillus icteroides and the hog-cholera bacillus are practically the same, the most constant change consisting of multiple necroses in the liver. Sanarelli does not appear to have made any mention of this most striking lesion."

I am very much surprised myself that Reed and Carroll should have found this lesion and should have betrayed seemingly good faith in describing it so carefully, without realizing that the lesion is entirely specific to hog cholera and limited to that affection and is completely unknown in infections with bacillus icteroides. I, myself, who certainly possess an extensive experience in the matter, having made thousands of autopsies on rabbits and guinea-pigs that had died from infection with bacillus icteroides, have never seen the necrotic patches of the liver they describe, and my experience is confirmed by many observers who have down to the present time repeated and controlled my experiments in so many different countries.

I have every reason to think, then, that Drs. Reed and Carroll have fallen victims to some deplorable neglect of technical precautions in the laboratory, and all the more am I compelled to think so because I gather from their experiments that the results observed after inoculations of the bacillus icteroides into other animals, by no means correspond with those described as occurring in the rabbit and guinea-pig.

As a matter of fact among other things Drs. Reed and Carroll did not succeed in reproducing the acute steatosis, fatty degeneration of the liver in dogs that was always so prominent a feature in my own observations, as well as those of Foa,[1] Belfanti and Zaoni,[2] De La Cerda,[3] Cesaris Demel,[4] Della Rovere,[5] Mendoza,[6] Ramos,[7] Bruschettini,[8] and others. This acute fatty degeneration of the liver is very characteristic and is produced much more rapidly and with much more intensity than fatty degeneration following phosphorus poisoning.

In the presence of hiatuses of observation and inexactness in detail in their experiments so great as these I find it impossible to give any serious consideration to the strange position taken by Drs. Reed and Carroll. It is evident that their conclusion has no other significance than that a gross and deplorable error was made in their laboratory and that somehow the cultures of the two micro organisms being experimented with got mixed for want of sufficient attention.

The bizarre effect of the hypothesis that they advanced is enhanced by the startling consideration that Drs. Reed and Carroll announce as a convincing element in the analogy between the bacillus icteroides and the bacillus choleræ suis, that both of these micro-organisms resist extremely low temperatures very well. As if it were not well known that all bacteria without distinction are endowed with the faculty of resisting low temperatures, or as if any one had ever succeeded in finding for bacteria the limits beyond which they would not stand refrigeration and as if this quality of resistance to low temperatures were to be set down as one of the characteristics of bacteria by which they might be recognized!

But this discussion as to the resistance of the bacillus icteroides to cold is not new. It was inaugurated by another bacteriologist, Dr. Novy, who, in a long article made up to a greater degree of

[1] *Annals de l'Institut Pasteur*, 1890–92.

[1] *Giornale di Real Acad. di Medicina di Torino*, fasc. 2 and 3, 1898.
[2] *Ibidem*, fasc. 5–7, 1898.
[3] "Trabalhos do Dr. Sanarelli, Etiologia d'Febre Amarillo," Rio Janeiro, 1899.
[4] *Giorn. di Real Acad. di Med. di Torino*, fasc. 3, 1898.
[5] *Riforma Medica*, July, 1898.
[6] *Centralblatt für Bakteriol.*, No. 11, 1899.
[7] *Revista Sem. Braz. Medic.*, No. 29, 1898.
[8] *Gazzeta d. Ospedali*, No. 64, 1899.

critical and philosophical considerations than of clinical or anatomical or experimental observations has attempted to show indirectly that the bacillus icteroides *could* not be the cause of yellow fever.[1]

It seems worth the while for me to transcribe the last period of this article because it gives an opportunity to judge at once of the whole system of reasoning to which the author abandons himself with an aggressive spirit which it is very hard to explain.

"This last experiment (exposure to cold) may be considered as a crucial test of the relation of the Sanarelli bacillus to yellow fever. Freezing for three days at a temperature below — 10° C. had absolutely no effect on the virulence of this organism. As pointed out above, epidemics of yellow fever are promptly brought to an end by a sharp frost. In other words, the microbes of yellow fever are exceedingly sensitive to cold. This certainly cannot be said to be the case with the bacillus isolated by Sanarelli. This organism in its behavior to cold again shows that it is related to the colon-typhoid group of micro-organisms. If, therefore, the Sanarelli bacillus were the cause of yellow fever we would expect to find this disease like typhoid fever distributed over the length and breadth of the American continent regardless of climatic conditions."

Now in order to imagine seriously this strange supposition in actual experience requires a mind absolutely guiltless of even elementary knowledge of epidemiology, not only as regards yellow fever but also with regard to the other serious epidemic diseases, which have in general their ordinary foci of greatest activity and points of maximal development in warm countries.

Not only yellow fever, but all the endemic diseases (malaria, etc.) and the epidemic diseases (cholera, pest, typhoid fever, dysentery, and the like) diminish in virulence and often almost disappear with the advance of the cold. But this phenomenon has absolutely no relation to resistance of their respective specific microbic causes to cold. The reason for their diminution during the winter is simply that while exposed to persistent low temperatures all pathogenic microbes without exception cease to multiply. But their cessation of reduplication by no means signifies that they have lost their vitality or virulence, since the return of warmer weather is almost invariably accompanied by renewed outbreaks of the epidemics.

A very instructive example of this is furnished by Asiatic cholera, which is a striking type of a disease that practically always disappears with the first cold weather. In spite of this, however, the vibrio of cholera has been known to resist exposure for 120 days to the severest cold, the minimal temperature of which was 31.8° C., and that, too, despite the fact that it was allowed to thaw out several times[1]. The bacillus of pest (bubonic plague) also has resisted for more than 40 days a temperature of 20°[2]; the bacillus of typhoid fever was found alive even after 103 days of exposure to a temperature of 10°[3], etc., etc.

It is no great matter for wonder then if Dr. Novy found the bacillus icteroides neither dead nor lessened in virulence after but 3 days of exposure to the cold of his window-sill. How can he conclude, besides, from this extremely defective experiment, that the bacillus icteroides comports itself when subjected to cold like a number of the colon-typhoid group, especially as there can not be found in contemporary scientific literature any reliable data as to the limits of resistance of these microbes when exposed to low temperatures? The comportment of the colon and typhoid bacilli in the presence of cold is entirely unknown in bacteriology and there is not the slightest reason to think that it is any different from that of any other microbe.

Is it possible that Dr. Novy is not aware that during the old epidemics of yellow fever in Philadelphia and Baltimore, precisely during the months of November and December, while the temperature was at times below zero, more than 100 persons a week were being carried off by the disease?[4] Or can it be that Dr. Novy does not know of examples of vessels infected with yellow fever, in which the germ of the disease was not destroyed despite the fact that they had been frozen up in Arctic ice for months? Or can Dr. Novy mention a single specific pathogenic germ that is not capable of enduring low temperatures?

After that it seems to me superfluous to defend myself against the remainder of the article cited. For the greater part it is made up of a series, as long as it is useless, of elementary laboratory exercises, executed with the idea of demonstrating the morphological and cultural differences and analogies between the bacillus icteroides, the bacillus of typhoid and Havelberg's bacillus, the last of these as we learn from a note, being nothing else than the common colon bacillus.

After the detailed descriptions given by myself and many other well-known bacteriologists of the morphological characteristics of my bacillus icteroides and the directions for its bacteriological diagnosis, I think that Dr. Novy might well have spared himself the pains of devoting himself to a work so little

[1] MEDICAL NEWS, September 10 and 17, 1898.

[1] Kasinsky, *Centralbl. für Bakteriologie*, p. 184, 1895.
[2] Gladen, *ibidem*, p. 588, 1898.
[3] Prudden, *N. Y. Med. Record*, April and May, 1887.
[4] "Corre Traite des fievres des pays chauds," p. 446, Paris, 1883.

capable of supporting the thesis which he has chosen and seems resolved to maintain at any price. This thesis is naturally that of Dr. Sternberg, and consists in declaring *a priori*, that the bacillus icteroides possesses absolutely no etiological significance in yellow fever. It matters not that this declaration is unsupported by even the slightest clinical observation, that not a single autopsy is brought forward to substantiate it, and that it has not been deemed necessary to institute the numerous and carefully conducted experiments upon animals which are usually supposed to give weight to an opinion in bacteriology!

It is easy to understand, then, that in order to be able to write his criticism without having recourse to these experimental elements Dr. Novy has been compelled to adopt a system of *a priori* criticism that fortunately has been banished definitively from the domain of the biological sciences. I have presented a fair and eloquent example of his critical method, but I feel compelled to deplore the utter levity and the want of anything like even elementary competency tor bacteriological criticism that characterizes the method Dr. Novy has employed in setting forth his objections to my discovery.

For example, he makes a great deal of the so-called laws of Koch, and insists that since I have not been able to isolate the bacillus icteroides in every case of yellow fever, that therefore, it cannot be the specific cause of the disease. He fails entirely to take account of the fact that I explained at length the reasons for these defective results in my original work and that I have considered them from the beginning as not final. I have I think demonstrated that this partial failure was due to exceptional circumstances in the investigation.

As a matter of fact I hope that by this time Dr. Novy has changed his opinion in this regard, for he must know that Drs. Archinard and Woodson[1] working in New Orleans, have succeeded in isolating the bacillus icteroides in more than 80 per cent. of their cases of yellow fever and he is surely aware that Dr. Geddings isolated it in 79 cases, 93 per cent. of those he had under observation. The official commission sent by the President of the United States to study yellow fever after long studies of the disease in Louisiana, Mississippi, and Cuba report[2] that they were able to isolate the bacillus icteroides in practically every case, while they never found it in an individual who had died from any other cause than yellow fever.

Dr. Novy criticizes the results of my experiments on dogs, but he adduces no experiments of his own to sustain his critical statements. He really shows a very complete ignorance of the present scientific literature of yellow fever, for it would require but a very superficial reading of the literature of the subject to know that the infectious and toxic symptoms and lesions produced by the bacillus icteroides and its toxins, reproduce all the specific marks of yellow fever in the human being. They especially produce that profound and characteristic fatty degeneration of the liver which experimentally we are not always able to produce even by phosphorus poisoning. It is even worse than the hepatic steatosis that follows phosphorus and it is absolutely characteristic of yellow fever.

Dr. Novy without further ado denies the absolute specificity of this fatty degeneration of the liver and asserts gratuitously that it may be produced by other microbes. He brings forward, however, no experimental observations to support this position and seems to be ignorant of the fact that I have published a series of comparative researches on this subject of the production of fatty degeneration in animals as effected by various pathogenic microbes. My method consisted in an accurate determination by means of chemical analysis of the amount of fatty substances to be found in the viscera of various animals after infection. I succeeded in demonstrating that the bacillus icteroides is far and away ahead of all other pathogenic micro-organisms in producing steatosis in the animal organism[1].

Dr. Novy demonstrates further and successfully that the toxins produced by the bacillus icteroides are not as powerful as those formed by the bacillus of tetanus or diphtheria. I have never even distantly hinted, however, that they were and if my eminent critic wishes to make it understood thereby that because of its lesser toxicity my bacillus cannot be accepted as the cause of yellow fever, then I must say that he holds an opinion entirely personal and peculiar to himself with regard to the pathology of the infectious diseases in general.

According to his way of looking at it there should be but two microbes capable of killing the animal organism by means of their soluble toxins, namely, those of diphtheria and tetanus! Are not typhoid fever, cholera, pneumonia, streptococcemia, tuberculosis, etc., also infective diseases characterized by the presence of a powerful, soluble poison elaborated

[1] *New York Medical Journal*, January, 1898.
[2] "Public Health Reports," No. 45, 1898.

[1] Average quantity of fatty substances contained in the liver of animals: (Average results of a number of analyses.) Normal dogs (as controls) 6.54 per cent. of the dried residue. Dogs after infection with the cholera vibrio 9.44 per cent. of dried residue. Dogs after infection with colon bacillus 10.60 per cent. dried residue. Dogs after infection with bacillus pyocyaneus 11.22 per cent. dried residue. Dogs after infection with diphtheria 14.65 per cent. dried residue. Dogs after infection with bacillus icteroides, 22.69 per cent. dried residue.—*Centralbl. für Bakteriologie*, No. 10, p. 382, 1898.

in their respective specific germs, even though their toxins may not be as rapidly fatal as those of diphtheria and tetanus?

If Dr. Novy desires, however, to have a more exact notion of the toxic powers of the bacillus icteroides, I should advise him to read an excellent article on the subject, the result of actual experiments by Belfante and Zanani[1] in which he will find an amount of interesting material that will supply certain defects in his present information on the subject.

After this I shall occupy myself only briefly with a most original declaration by Dr. Novy, who asserts that "from the above it is evident that Sanarelli's bacillus produces in experimental animals a disease not unlike that following infection with the bacillus coli communis."[2] This is equivalent to impugning either the good faith or the good judgment not only of myself, but of a now numerous following of distinguished bacteriologists who have announced their belief that we have in the bacillus icteroides a pathogenic microbe distinct from the external colon bacillus, which constitutes the great coefficient of ordinary errors in bacteriology and is without doubt the greatest crux of bacteriological investigations, whenever intestinal contents enter, however remotely, into the subject to be studied.

Now it was precisely because of this and to make the matter clear to inexpert or impractical bacteriologists, that I take the trouble to insist at such length on the fundamental characteristics which differentiate beyond peradventure of error the bacillus coli communis from the bacillus icteroides.

The last part of Dr. Novy's article is taken up with the subject of vaccination, and with the agglutinative power of various serums. But even here there is a lamentable confusion of opinions and of experiments which results in an incomprehensible muddle. For example, the author did not succeed in obtaining a serum with sufficiently high preventive powers from a horse that he thought he had vaccinated thoroughly after five months of injections. Annoyed by this failure he proceeds to cry out without more ado that the bacillus icteroides is not capable of producing a soluble toxin.

It is evident that he is not aware of the investigations on this subject[3] published by one of our most eminent experimenters,[4] and in which he demonstrated beyond all doubt the antitoxic value and the preventive and curative powers of a serum obtained from horses properly vaccinated. The serums are effective against the bacillus icteroides and its toxins.

Finally, Dr. Novy experimented with the bacillus icteroides and serums derived from horses that had been vaccinated against pest and against the colon and tetanus bacilli. He found that all of these serums indiscriminately caused agglutination to occur in cultures of the bacillus icteroides and concluded from this with what we may call, I think under the circumstances, his habitual unreflecting precipitancy, that therefore this phenomenon was of absolutely no importance as regards the demonstration of specificity.

But it is evident that Dr. Novy has been deceived once more in this for want of taking proper account of the dilution of his serums, for it is well known that these researches in agglutination have no value unless they are practised comparatively and with dilutions of serum always at least 1–40.

I consider it scarcely worth the while at this late day to call Dr. Novy's attention to the results obtained after long and serious investigation of the subject of the serum diagnosis of yellow fever in New Orleans, by P. E. Orchinard, R. S. Woodson, J. Archinard,[1] and O. L. Pothier.[2] They demonstrated indisputably that the serum of yellow-fever patients, of convalescents from the disease, and of those fully recovered, was endowed with an agglutinative power entirely specific for the bacillus icteroides, which was not noted in the case of other bacilli if the dilution was sufficient.

The last of this long series of inexactitudes is especially laughable. Dr. Novy declares that the negative bacteriological investigations, together with the facts observed during epidemics of yellow fever, justify the conclusion that the specific microbic cause of the disease, like those of smallpox, measles, hydrophobia, etc., belongs to a group of micro-organisms that are invisible to the microscope!

I find this a very convenient way of looking at the subject especially for such as Dr. Novy, who have neither the time nor the wish to undertake the voyage to Cuba in order to see a yellow-fever patient or two, or to make a few, or at least some modest bacteriological investigations in the home of the disease. I cannot admit, however, that the science of epidemiology gains much from this method of argumentation borrowed from metaphysical sources.

On the contrary, the ready propagation of the disease, the exceptional longevity of its pathogenic agent whatever it may be, its rapid acclimatization in localities that cannot at first offer it an especially suitable means of nutrition, its resistance to desiccation and various other considerations which can be gathered without difficulty from the known epidem-

[1] *Giornale di Real Academia di Torino*, No. 5–7, 1898.
[2] MEDICAL NEWS, *loc. cit.*, p. 367.
[3] MEDICAL NEWS, *loc. cit.*, p. 365.
[4] Foa, *Giorn. di R. Acad. di Med. di Torino*, No. 4, 1898.

[1] *New York Medical Journal*, January 28, 1899.
[2] *The Jour. of the Amer. Med. Association*, April, 1898.

iology of the disease might easily have led one to believe that even before my discovery the specific cause of yellow fever, whatever might be its nature, was not very different from the ordinary type of pathogenic microbes that are known, since its habits and manner of life are regulated by the same conditions, ruled by the same laws. As a consequence its isolation in pure culture promised with the varied nutritive materials that we have at our command now to be only a question of time, of of ability, especially of sufficient preparation and of tenacious persistence.

My preceding and rather well-known researches on the etiology and pathogenesis of typhoid fever[1] of cholera,[2] to which I devoted a good deal of not unfruitful time and labor, put me in the position certainly of having sufficient preparation even for the difficult bacteriological problem presented by yellow fever.

My pathogenetic criteria had been developed especially by the work on typhoid fever[3] and this contributed not a little to orient me at once even as to the probable mechanism of the infection by yellow fever. It pointed out very happily the direct path that had to be followed in order to demonstrate the so-much-sought-for specific microbe of that dread disease.

I am inclined to doubt if those who find it so easy to criticise are in a position to treat the bacteriological and pathogenetic questions of the infectious diseases with as much experience and authority, for these can only be acquired after many years of practical study at the bedside of the sick, in the autopsy-room and in the laboratory of comparative experimental pathology.

TUBERCULOSIS OF THE KIDNEY AS AN INDICATION FOR NEPHRECTOMY.[4]

BY EDWARD REYNOLDS, M.D.,
OF BOSTON, MASS.

My text in this short paper is that tuberculosis of the kidney is not always the hopeless and destructive bilateral complication of other tuberculoses, which some observers still believe that it almost invariably is, but that some recent experiences of my own have led me to believe that it is not infrequently unilateral, and primary in that one kidney, and that in such cases its clinical course is widely different from that usually ascribed to it. I believe that when it is bilateral, or even when it occurs as a unilateral disease in broken down or profoundly tuberculous constitutions, it is a rapid and hopeless affection and that such cases are unfit for surgical treatment, but that when it is primary and unilateral and occurs in fairly resistant women it is a slow and insidious disease, which is not infrequent in the community, which is often characterized during many years by but trifling symptoms and is then readily curable, but is usually unrecognized until after it has become incurable. I believe, in short, that in some instances, this disease is today fulfiling the rôle, which was so long enacted by chronic appendicitis and tubal pregnancy, and that with further study it will yield us another and wide extension of our usefulness. I believe that success in the operative treatment of this affection rests upon the selection of cases; upon the selection for operation of those patients who remain for years in good general condition; in whom the disease is slow and chronic and, therefore, unfortunately, obscure and easily overlooked; but the main object of my paper is to urge upon all the mere fact of its existence. In support of this view I wish to bring before you not theoretical considerations, but the somewhat suggestive details of the cases which I have myself observed, together with a few words as to the methods of diagnosis and treatment which I have found useful.

The first point which strikes me as of interest in my cases is that all the patients were brought to me by their physicians for the relief of urinary discomforts, and as afflicted with moderate debility, but not in any instance for the cure of an important disease, the symptoms in all cases consisting of a rather deteriorated condition of health, and habitual, though sometimes transient, attacks of urinary discomfort. The second is that three out of four of the patients had tuberculous family histories. The third, and one of the most striking features, is the long duration of the illness in some of the patients before it was brought to the notice of a specialist, the patient whose kidney was least advanced in the disease having a history of eight-years' duration, while another whose kidney showed only the presence of two small abscesses of the size of a pigeon's egg had a history of twenty years of suffering. Two patients had suffered from repeated attacks of somewhat profuse hematuria; none of the others showed any symptoms which could be differentiated by the study of the history from those of an inflammatory affection of one kidney.

Briefly, the history of all except the hematuric cases, consists only of long-continued debility, with frequency and discomfort in micturition, and sometimes pain and tenderness referable to one kidney or

[1] *Annals de l'Institut Pasteur*, 1892 and 1894.
[2] *Ibidem*, 1894 and 1895.
[3] Consult Brouardel, "Fra te de Medicine," p. 791; Duflocz, "Leçons sur les Bacteries Pathogenes," p. 340, etc., 1897; "Rho. Malattie de pæsi caldi è temperati," p. 425, 1897; Macé, "Traite pratique de bacteriologie," p. 683, etc., 1897; Kocher and Zavel, "Vorlesungan über chirurg. Infectiouskrankeiten," etc., 1898.
[4] Read at the twenty-fourth annual meeting of the American Gynecological Society, held at Philadelphia, May 23, 24, and 25, 1899.

ureter. Curiously enough the pain and tenderness, in this as in many other unilateral renal affections, is not infrequently referred to the sound side, where it may even be intense. One patient had a history which rendered the existence of previous but transitory pulmonary tuberculosis likely.

The diagnostic lesson which I have learned not only from these cases, but from a considerably larger experience with other affections of the urinary organs is that the most which we can gather from a history which consists only of long-continued debility and urinary symptoms, is that in such cases the debility is usually though not always the product of the urinary disease; that the nature of the urinary difficulty can only be determined by a physical examination of the urinary organs; and, finally, that the physical signs of even somewhat advanced urinary tuberculosis may be at times, and especially in its quiescent periods, so slight that the disease will be missed by any but inoculation tests. I am not sure that it may not sometimes be missed at such periods even by these delicate reactions, although out of a considerable number of negative inoculations I have so far had none in which the subsequent operation or course of the disease failed to show the patient to be clear of tuberculosis.

The methods which I use are careful palpation over both kidneys and the course of both ureters including their vesical ends; a visual inspection of the bladder; in the absence of definite lesions of this viscus, a catheterization of the ureters, and the submission of the separated urines not only to a microscopical examination by an expert, including a careful search of stained specimens for the tubercle bacillus, but also to the injection of a portion of each sediment into a separate guinea-pig. The importance of adding the last method of examination to our tests is, I think, shown especially well in the fourth case on my list, in which repeated examinations for tubercle bacilli by Dr. J. B. Ogden of the Urinary Laboratory of the Harvard Medical School, failed to show their presence, though made while the bladder was the seat of ulceration, and although the guinea pig inoculated with the urine of the affected kidney promptly became infected with the disease, while a pathological examination of the specimen after nephrectomy showed the presence of two tubercular abscesses, which communicated with the pelvis of the kidney. In the absence of hematuria the microscopic examination of the urinary sediments of the divided urines may even fail to show any disease, especially on a single examination only; since a sediment which at one time contains a large amount of pus, may at other times (and probably for long periods) show only scattered leucocytes and but little else of significance, yet in my second case an inoculation was positive in just such a urine and the kidney was found to be tuberculous.

As regards treatment, I have subjected the three patients upon whom I have already operated to simple nephrectomy, on the ground that even if there were a tubercular infection of the portion of the ureter which was left behind it would surely disappear under the retrograding processes which a ureter necessarily goes through after its kidney has been removed, and in the two cases in which eleven and eighteen months have already elapsed since the operation, the restoration of the patients to continued and perfect health has shown the justice of this view, while the rapid improvement of the third in the short time which has elapsed since the operation makes a similar result seem probable, but the persistence in one of these cases, and in several other of my nephrectomies, of considerable urinary suffering during the convalescence, which I have attributed to the distention of the stump of the ureter by retained secretions, with the appearance in one case, late in the convalescence, of suppuration which seemed attributable to infection from the stump of the ureter, together with the fact that in a case which I saw in consultation after nephrectomy had been performed, it was necessary to remove the ureter for continued suppuration, have led me to propose for the future to treat such cases by nephro-ureterectomy. The rapid and complete restoration of health, with gain of weight and healthy color, which these patients have exhibited after operation, together with the easy vicarious assumption of the whole function of elimination by the remaining kidney have made me feel that nephrectomy is a wholly justifiable operation for proper cases of unilateral tuberculosis of the kidney; and I may add my belief that the enormous mortality which has in the past attended this operation has been due in part to imperfect diagnosis and selection of cases, and in part to the fact that it has usually been reserved for a last resort, in cases which are already in a condition which renders any surgical operation unpromising. I believe that if it is applied to women who are in fair condition, its mortality will be very small; to say nothing of the fact that we may fairly believe that the improved technic which always follows the frequent performance of an operation will probably in time reduce the mortality of this operation as it has that of hysterectomy.

Two of my cases have already been reported in detail; the others will be as soon as a sufficient time has elapsed since the operations, but a few particulars of them may properly be included here.

The first patient, Mrs. R., seen with Dr. Hedenberg of Medford, Mass., had been subject to attacks of

urinary frequency for five years. She had had some pain and tenderness over the course of the left ureter for about one year, and though not confined to her room except at the time of her attacks had been in poor general health during the whole five years. At the time I first saw her, her urine had for some weeks contained considerable quantities of pus, and she had been urinating about every twenty minutes through the daytime and some five times at night. Her bladder was the seat of general inflammation, there was marked redness and erosion about the left ureteral orifice, and several polypi, apparently secondary, about the internal orifice of the urethra. Local treatment of the bladder entirely relieved her symptoms within a few weeks and disposed of all the vesical lesions except the erosions about the left ureter, tne vesical end of which was enlarged and hardened to the touch, but this relief was not permanent, in fact comfort was only maintained by almost continuous treatment of the bladder, and her general health was manifestly running down.

An incision down to the left kidney December 3, 1897, showed it to be much smaller than normal and on removal it was found to consist of but little more than a shell filled with cheesy pus. On section its tissues were found to be full of tubercle bacilli, though a previous examination of the urine at a time when it was full of pus had failed to detect them. No inoculation test was made. During the year which followed the operation the patient enjoyed perfect urinary comfort, gained greatly in strength, color, and general health, and has remained a wholly well woman ever since (about 18 months). The case was reported in the *St. Paul Medical Journal*, May, 1899.

The second patient, seen with Dr. P. C. Proctor of Gloucester, Mass., had a tubercular family history but had had no such trouble herself. She had been a semi invalid for eight years, her illness dating from an unexplained attack of hematuria. She had had one other similar attack five years later, and I saw her during the third, which lasted for some weeks and was profuse enough to blanche her severely. Her only other symptoms were slight frequency during the hemorrhages and some backache and bearing down during the intervals, but none in the attacks. Her bladder was normal, but blood was oozing from the right ureteral orifice. A search of the ureteral sediment for tubercle bacilli conducted by Dr. Ogden was negative, and in fact the sediment contained practically nothing but the blood, but a guinea-pig inoculated with the sediment of the right kidney developed tuberculosis, while one inoculated from the left side remained well. I removed the kidney on June 24, 1898. All the symptoms were at once relieved, the patient considered herself in perfect health at the end of three months, and has remained so ever since, having regained her normal weight, color, and strength. The pelvis of the kidney contained numerous scattered miliary tubercles. The case was reported in the *Johns Hopkins Hospital Bulletin* for November, 1899.

The third patient was seen with Dr. Edgar Garceau of Roxbury, Mass., after he had performed a nephrectomy. Both family and personal history were clear. The duration of her symptoms before the operation was about one year. She had had pain and tenderness over the situations of the left ureter and kidney, some pain on the left side when lying in bed and pain referred to the neck of the bladder. She had passed urine about forty times during twenty-four hours. There had been no hematuria. There were ulcerations in her bladder which Dr. Garceau had curetted before performing nephrectomy. The diagnosis and indication for operation were founded on an increased size of the kidney on palpation, and on the tubercular appearance of the bladder. An examination of the kidney after its removal showed it to be tubercular. At the time I saw her she was very feeble and greatly emaciated. She had an irregularly elevated temperature, which was apparently due to suppuration about the portion of the ureter which had been left. I thought her too weak for much prospect of success from ureterectomy, but Dr. Garceau courageously removed the ureter, and the patient made a surprisingly uneventful return to entire health and resumption of her work, which condition she maintained for nearly a year, or until a few weeks ago, when some urinary frequency reappeared, and Dr. Garceau informs me that she now has a few ulcerations of the bladder which, however, he hopes to cure by local treatment. This, as is readily seen, was a very unfavorable case, and was moreover, in very unfavorable hygienic surroundings. She has, nevertheless, received much benefit and may yet be cured, as the recurrence of the disease is thought to be limited to the bladder, and I have already had two cases of primary tubercular disease of the bladder in which healing occurred after local cauterization, and both patients have remained well, one for more than a year, and the other for more than three years. This operation was undertaken, however, without bacteriological proof of the soundness of the other kidney, and should therefore, I think, be considered as in a little different class from the other cases reported.

My fourth patient was seen with Dr. A. A. McDonald of Roxbury. Her family history was tuberculous, her personal history good. She had suffered for twenty years with urinary discomforts which

grew worse at intervals but were never wholly absent. For four years she had been subject to acute pain over the left ureter and kidney, and occasional though not very severe left-sided renal colic. At the time I saw her there was no tenderness on either side and neither ureter could be felt on palpation per vaginam. She was then urinating from forty-five to fifty times each night and almost incessantly through the day. Her bladder was studded with tubercular ulcers. I considered the case wholly beyond the reach of radical treatment, but advised Dr. McDonald that I thought he might greatly lessen her suffering by cauterizing the vesical ulcerations with solid nitrate of silver warning him, however, that this would be a very tedious task, and that I was very skeptical of his even reducing the bladder to a normal condition. A guinea-pig inoculated with her bladder urine promptly developed tuberculosis, and I was greatly surprised when the doctor brought her back to me, after three months of most patient and almost continuous treatment, with an entirely normal bladder. On palpation I now found the vesical end of her right ureter to be thickened (it is to be noted that all the symptoms were upon the left side). I then catheterized her ureters and submitted the specimens to Dr. Ogden. No tubercle bacilli were found, but the guinea-pig inoculated from the right side developed the disease, while its fellow inoculated from the left side remained well. The urine from the left side appeared normal with the exception of the fact that it contained a good deal of stringy mucus. This probably accounted for the occasional renal colics, but the appearance of even this slight abnormality on the sound side made me feel very unwilling to operate, and I refused to do so until repeated catheterization of the ureters had yielded uniformly the same results. Then, in view of the facts that there was undoubtedly tuberculous disease in the right kidney, that the physiological action of the left was good, that the woman had gained considerably in health and strength in the four months during which she had waited for the inoculation and other tests, and that the bladder still remained normal, I consented to a nephrectomy on the right side. This was performed on March 8, 1899, and it is too soon to report the result, but it is a striking fact that the left-sided pain was gone when she came out from the influence of ether, and never recurred, and that the urinary frequency is gone, and that she has already gained in general condition. The kidney contained two small tubercular abscesses. In two other cases the diagnosis, though probable, is not yet fully established by the inoculation test and I therefore prefer not to report them.

RETENTION OF THE TESTICLES, WITH REPORT OF CASES.[1]

By L. L. HILL, M.D.,
of Montgomery, Alabama.

It is essential to a thorough understanding of an abnormality that we have a clear comprehension of the normal. This is especially applicable to the subject which I now propose to consider. Anatomists tell us that the testicles in early fetal life are located behind the peritoneum and below the kidneys. About the third month a slender band of unstriped muscular fibers, the gubernaculum testis, is observed, which eventually, in the marvelous process of development, connects the testicle with the bottom of the scrotum. As the fetus elongates the gubernaculum not only does not commensurately lengthen but progressively shortens, necessarily causing descent of the organ into the scrotum. The testicles are found in the scrotum at birth in eighty per cent. of all cases. Of the retarded twenty per cent. only one in a thousand finds permanent lodgment in the inguinal canal or abdomen Professor Keyes reports descents as late as the thirtieth year. Less frequently they stray from the usual path and may be found in the perineum, the most common form of ectopy in man, and the natural position in some of the lower animals, as the pig. Having passed through the femoral ring they reach the thigh, or there may be penopubic ectopy. Those which descend after birth are usually complicated with hernia and when permanently retained are often given to structural degeneration.

The cryptorchid is generally copulative but sterile, losing his spermatogenesis but none of the other attributes of masculinity, the sterility being determined in a given case only by a microscopic examination. Statistics show that the right testicle oftener fails to descend than the left. The chief accredited cause of abdominal retention is intra uterine peritonitis. Non descent may be due to the wearing of a truss or to shortness of the cord. An unusually small external abdominal ring may produce lodgment in the canal. Excessive development of certain fibers of the gubernaculum is responsible for aberrancy.

Having thus briefly considered in a general way some of the features of this interesting subject, I will report three cases that have come under my observation, with the treatment that was adopted.

Case I.—E. B., aged twenty-four years, white, a clerk in a railroad office, applied to me in December, 1895, presenting an enlargement in the right inguinal region which he said had existed since his birth. He complained of an uneasy and disagreeable sensation which was accentuated when the

[1] Read before the Medical Association of the State of Alabama, at Mobile, April 20, 1899.

bowels became constipated and distended with gas. The pain rendered him incapable of properly attending to his duties.

Upon examination I found an undeveloped scrotum and a retained testicle in the inguinal canal complicated with an irreducible bubonocele with which it was inseparably connected. Hernia is one of the most frequent complications of this form of undescended testicle and particularly dangerous on account of proneness to strangulation. Trusses, recommended with large concave pads to prevent an increase of the hernia and protect the testicles, are in the main unsatisfactory. I accordingly advised an operation for the radical cure of hernia and if possible transplantation of the testicle in the scrotum, and if the latter was not found feasible, then a castration. To the partial emasculation he strenuously objected, which from the appearance of the testicle was more a matter of sentiment than anything else. Contrary to my better judgment I yielded to his entreaties and promised not to sacrifice the testicle in case the scrotal transplantation failed, but to try to relieve him of his pain by a conversion of his retentio inguinalis into a retentio iliaca, and absolve him from the jeopardy of a strangulated hernia by radical operation, as much as possible after the method of Bassini. Owing to the shortness of the cord and my inability to carry the testicle to the scrotum even after I had thoroughly divided the musculofibrous funicular sheath it became necessary to do this. I considered the advisability of dissecting the globus major from the testicle and turning the organ upside down, an operation I had seen Mr. John Wood do some years before in London but concluded even this additional lengthening would not carry it to its habitat.

More than three years have elapsed since the operation and the patient has attended daily to his duties and has suffered no inconvenience. Had I seen this patient early in life, when the hernia was probably reducible, I should have used the horseshoe contrivance of Wood and attempted to push the testicle into the scrotum and at the same time restrict the hernia to the abdominal cavity. There are excellent surgeons who, when it is possible, return both hernia and testicle to the peritoneal cavity and apply a truss to keep them there if they are inseparable.

Case II.—E. C., aged twenty-five years, white, consulted me in February, 1896, on account of the absence of the testicles from the sac. I found both testicles retained in the inguinal canals. They seemed to be about one-half their normal size. It was impossible to push them through the external rings. The scrotum was undeveloped and measured transversely only half an inch. Aside from his desire for relief purely on grounds of adornment and development, their exposed position subjected them to frequent traumatism.

I advised an operation, to which he readily consented. Making an incision sufficiently long to well expose the testicle, I applied downward traction to the organ and divided the tissues of the cord transversely, barring the vas, vessels, and nerves. Passing my finger into the lower end of the wound I forced an opening into the scrotum for the retention of the belated testicle. Invaginating the sac, I sewed the testicle to its bottom with catgut. The aponeurosis of the external oblique was next closed with catgut and the external ring was left large enough not to interfere with the circulation of the spermatic vessels. The cord was sutured to the pillars of the external ring and the wound in the skin closed. In dressing the wound I used a compress of antiseptic gauze to aid in keeping the testicle in its correct position. Waiting until the wound had completely healed I repeated the operation on the right side. Since the transplantation the testicles and scrotum have developed to their natural size, and were it not for the scars a former abnormality would not be suspected. In cases of double retention like this only one side should be operated on at a time as I am satisfied the rudimentary scrotum could not have safely held both testes.

Case III.—F. C., about six years of age, son of a physician, was brought to me by his father for the relief of an undescended testicle on the right side. He was very anemic. The father stated that the testicle frequently became enlarged, and very painful and tender to the touch. Sometimes he could get a history of injury, but often he supposed it to be due to the contraction of the abdominal muscles. The child was an epileptic, the seizures coming on whenever there was any disturbance of the testicle and at no other time, and their frequency and severity were proportionate to the amount of irritation. I gave as my opinion that it was a case of reflex epilepsy and that the testicle should be released from its incarceration, preferably by anchoring it in the scrotum but if need be by extirpation. I performed the operation just as in the previous case and had the satisfaction a short time ago of receiving a letter from the father, a very intelligent physician, in which he said that the boy was in good health and that "there had been no return of the nervous symptoms from which he suffered previous to the operation."

There are two features of special interest in this case, the first being that it was a genuine case of reflex epilepsy as shown by immediate cessation of seizures after the operation. The second is that there was a sudden rise of temperature to 106° F., within twelve hours after the operation, at which point it remained for three days with slight variation, and then gradually declined to normal. The wound healed without suppuration. I do not believe the rise of temperature was a so-called post-operative rise, but was incident to an excitation of the thermogenic centers from the source of irritation, the impressionable impulse being transmitted through the sensory nerves.

Professor J. William White of Philadelphia advises the performance of these operations before the age of puberty. His opinion is entitled to serious consideration. To this distinguished surgeon is due

great credit for having elucidated and popularized the means of relief.

THE CHOICE OF DRUGS TO DILATE THE PUPIL.

By EDWARD JACKSON, M.D.,
of Denver, Col.

The influence of certain drugs in producing dilatation of the pupil is so striking and so characteristic that they are mostly grouped under the name mydriatics. The most of these resemble each other closely in all their physiological actions and therapeutic capabilities. Yet several of them differ sufficiently in their influence to render the one or the other distinctly superior in certain cases; and one drug, cocain, differs from the others so completely as to place it quite outside the group of true mydriatics, although it possesses a power of dilating the pupil that is of the highest practical value. Along with their power of producing dilatation of the pupil, mydriasis, these drugs all possess in varying degree the equally useful power of causing paralysis of the ciliary muscle, cycloplegia. In this paper their action as cycloplegics will not be referred to except as cycloplegia may be a valuable adjunct or a distinct disadvantage in their use as dilators of the pupil.

As the basis for choosing the particular drug most appropriate for a particular case, we have their somewhat different physiological actions on the pupil. Ten or twelve minutes after a drop of a solution of atropin, 1 to 120 (4 grains to the ounce), is placed in the conjunctival sac the pupil begins to dilate. The dilatation increases rapidly; the pupil at first reacts well to light, but is less and less affected by illumination as it grows larger. In fifteen or twenty minutes after it begins to dilate the maximum size of the pupil that can be produced by atropin is reached, and it becomes quite fixed, failing to respond to any of the forms of stimulation that produce reactions in the normal pupil. For about two days this condition remains unchanged. Then the pupil very slowly becomes smaller, and at the same time its reactions gradually return, until at ten or fifteen days after the application of the drug it has again become normal. Repeated instillations of such solutions prolong to any desired extent the period of complete dilatation, and recovery may be slower. I have seen three full weeks elapse between the last instillation and complete recovery.

Reference is here made to complete recovery, the period of which can only be accurately determined when the drug is used in but one eye, the other being kept normal as a standard of comparison. Often in six or eight days recovery may be so far advanced that no great inconvenience is experienced from the remaining dilatation, and after that the recovery is so very gradual, that some patients still think it not complete long after every trace of the action of the drug has passed away.

Dilatation of the pupil by atropin is accompanied by paralysis of the ciliary muscle, and suspension of the power of accommodation. This begins with dilatation, reaches the maximum in one or two hours, remains complete for about two days, and then slowly passes off as the pupil contracts. With smaller doses of atropin the period of complete dilatation is shortened. A drop of a solution of 1 to 2000 does not produce complete dilatation and fixity of the pupil; and the return to normal will occur in eight or ten days. Of a solution of 1 to 500,000 a single small drop, containing less than one-millionth of a grain of atropin, will produce a perceptible enlargement of the pupil lasting from thirty-six to forty-eight hours.

The actions of the other natural mydriatic alkaloids, daturin, duboisin, and scopolamin are almost identical, and closely resemble that of atropin. They are 2 or 2½ times as strong as atropin, so that used in solution of ½ or ⅔ the strength they produce an equal effect. Recovery from their effects does not require so long as recovery from the effects of atropin. After complete dilatation by one of these drugs the pupil will return to normal in eight or ten days. They also cause complete paralysis of accommodation.

The artificial alkaloid homatropin differs essentially from any of the above in being much weaker in action, and in having a shorter period of recovery. A solution of 1 to 50 is required to produce complete dilatation and fixity of the pupil, and a single instillation of this does not produce complete paralysis of accommodation Recovery is generally complete in two or three days. I have seen it complete in twenty-four hours, but in one reported case the period of its influence lasted longer than five days. Euphthalmin, an artificial alkaloid recently brought forward, is weaker than homatropin, and gives slightly greater dilatation of the pupils as compared with the diminution of accommodation that it produces. One instillation of a solution of 1 to 20 produces almost maximum dilatation, but not fixity of the pupil, and recovery is complete in about twenty-four hours.

In contrast with all the above is the action of cocain. It never produces fixity of the pupil. After repeated instillations of strong solutions the pupil continues to contract on exposure to strong light, and with convergence, yet even a single instillation of a solution of moderate strength will cause with feeble illumination a wider dilatation of

the pupil than can be obtained by any application of atropin, or the stronger mydriatics. Dilatation produced by cocain passes away in about twelve hours, and its effect on the accommodation is very slight. The superiority of cocain is most marked in elderly persons, in whom the other mydriatics produce only imperfect dilatation of the pupil. The influence of cocain is well shown by its effect in enlarging the pupil, when fully dilated by one of the stronger mydriatics.

Bearing in mind the special characteristics of the different mydriatics, let us consider which will best meet the needs of each particular condition, in which the use of a mydriatic is indicated. To dilate the pupil for ophthalmoscopic examination the indication is to dilate it quickly and widely in the dark room for as short a time as possible and to cause the least inconvenience and impairment of vision afterward. This is particularly the case when there is reason to suspect some progressive lesion causing the impairment of central vision, as albuminuric retinitis, or retrobulbar neuritis with central scotoma. It has repeatedly happened to me to meet a patient suffering from one of these diseases in whom for purposes of examination the pupil has been dilated by one of the slower mydriatics. The mydriatic caused immediate impairment of vision, and by the time the mydriatic influence had imperceptibly passed away the original disease had caused an impairment of vision which replaced that produced by the drug. It has usually been impossible to convince such a patient that his eyes have not been permanently damaged by the drops that were put in them. On the other hand, a mydriatic like cocain or a mixture of cocain and homatropin, causes comparatively little interference with vision at any time, and its effect passes off so rapidly that the patient realizes that he has recovered from it before the more permanent loss of vision by disease has progressed so far as to be noticeable.

Then, too, the risk of causing an outbreak of glaucoma by the use of a mydriatic must be considered in every case in which there is impairment of vision and difficulty in making an ophthalmoscopic examination The liability to glaucoma is not confined to any one period of life. It is greater after middle age, but the disease may arise during childhood. From much that is written on the subject one might think that a mydriatic could not cause or aggravate glaucoma in any case until the patient was forty to forty-five years old; and that then every eye became liable to a glaucomatous outbreak from the use of a mydriatic. As a matter of fact no use of mydriatics at any time of life can produce glaucoma in one eye in five hundred; it is only a glaucomatous eye that the mydriatic can so affect. But of the two cases in which I have seen a glaucomatous attack thus produced one was that of a woman only twenty-five years old. Frank Fisher reports a case in which atropin provoked an attack in a girl twelve years old. J. B. Story reports cases occurring at thirteen and eighteen years. S. C. Ayres reports a case in a girl of sixteen and cites eighteen other cases of glaucoma occurring under the age of twenty.

When, on any account, there is reason to suspect glaucoma, the only mydriatic free from liability to produce an attack is cocain. Every new mydriatic has been brought forward with a claim that it was less likely to cause glaucoma than its predecessors, but when given a sufficient trial the claim has in each case been proven false. The only exception has been when the dilatation of the pupil it produced did not last long enough to establish a condition of high tension. The mydriatics cause glaucoma by thickening of the iris periphery, when the whole substance of the iris is gathered into a ring in the region of its ciliary attachment.

All mydriatics which act by paralyzing the sphincter of the pupil produce such a thickening of the iris periphery, with liability to cause blocking of the filtration angle of the anterior chamber and increase intra-ocular tension. Cocain, on the other hand, causes dilatation of the pupil chiefly or wholly through shrinkage of the iris mass by contraction of its vessels, and therefore it has little or no tendency to cause blocking of the filtration angle and a glaucomatous attack. Free applications of it often reduce very markedly the tension of the normal eyeball; and it is of practical value in connection with myotics in reducing the intra-ocular tension during an attack of acute glaucoma.

The diagnosis of glaucoma by the production of an acute attack may be justifiable in some doubtful cases after proper explanations have been made to the patient. For this purpose homatropin is to be used. If it produces an attack the dilatation of the pupil it causes and the consequent increase of intra-ocular tension can be cut short by the use of eserin.

Dilatation of the pupil for accurate measurement of refraction may be needful in old persons with small pupils, quite apart from any need of paralyzing the ciliary muscle. In the trial with lenses the stenopeic effect of the small pupil may be such that the patient will find it very difficult or impossible to choose between different lenses held before the eye. I have seen a patient whose emmetropic eyes were quite devoid of accommodation read thirteen-inch type at from ten to thirteen inches simply because the smallness of his pupils prevented blurring from

imperfect focussing. In such a patient it is quite impossible to make any accurate determination with trial lenses without dilating the pupil. If the pupil in the dark room be less than 3 mm. in diameter the application of the shadow-test also becomes difficult or impossible. To dilate the pupil for this purpose cocain or the combination of cocain and homatropin is to be preferred. To dilate the pupil for examination by oblique illumination when disease or injury is suspected in the lens or anterior vitreous we wish a preparation that will give the widest pupil even under rather strong illumination. This will be a combination of cocain with one of the other mydriatics. Homatropin should be used if the dilatation is only desired during examination; or one of the slower mydriatics may be used with the cocain if the eye is subsequently to be kept under its influence.

In central corneal opacity or partial cataract, either polar or nuclear, we sometimes find that the patient sees better in a dim light because the enlarged pupil then permits the light to enter through the clearer portions of the cornea and lens. In such cases if just sufficient dilatation of the pupil can be obtained when the pupil is exposed to the stronger light vision can be materially improved. For this use cocain is quite unsuitable. Atropin is especially indicated both because of the comparative fixity it gives to the pupil, holding it at about the same diameter whether the light be bright or dim, and because of the persistence of its action, which keeps the conditions of vision comparatively constant without the necessity of frequent applications. The exact strength and frequency of application that will give the best result must be obtained by observation of the particular case, noting the extent and distribution of the opacity, the length of time after the application of the mydriatic, and the size of the pupil when the most satisfactory vision is obtained. The strength of solution required will always be much less than that commonly used to paralyze the accommodation. A solution of 1 to 2000, or 1 grain to 4 fluid-ounces, is a good strength to begin with. This may be instilled once every two or three days, preferably at bedtime, so that the most rapid changes produced by it may be past before the eyes are brought into use again next day.

For certain operations dilatation of the pupil is an aid or an important condition of success, as for the delivery of the lens in the simple extraction of cataract, or the division of secondary cataract. As soon as the anterior chamber is opened and the aqueous begins to escape the pupil contracts. This contraction is less and slower when the pupil has been dilated with cocain than when it is only under the influence of a "stronger" mydriatic. It should be remembered, however, that strong light overcomes the influence of cocain on the pupil, and advantage should be taken of the dilatation secured by excluding light from the other eye.

Suspected iritis is revealed or excluded by dilatation of the pupil. When there is much doubt as to participation of the iris in an inflammation one of the brief mydriatics, as homatropin or euphthalmin, should be tried first, and only when the iritis has been demonstrated in this way need the slower mydriatic be employed.

Dilatation of the pupil in actual iritis is of the greatest practical importance and presents especial difficulties. The iris is swollen by dilatation of its vessels, its movements are hampered by the deposit of exudate in its substance, and later by the plastic adhesions that bind it to the anterior capsule of the lens, and the general congestion and fulness of the tissue greatly interferes with the absorption of the drug employed. Under these conditions the action of the mydriatic may be greatly aided by such measures as local bleeding from the temple to lessen the fulness of the vessels and the internal administration of mercury to influence the tendencies of the exudates.

But there are also clear indications as to the particular mydriatic drug. The small amount taken up into the inflamed tissues renders imperative the use of strong solutions of those drugs which will in small quantity produce the most decided and lasting effects. Atropin and hyoscyamin or its equivalents, in solutions of 1 to 60 or even stronger, must be placed directly on the cornea where the largest quantity will pass through it to influence the iris, and these must often be supplemented by the use of cocain, also in strong solution. The tendency of the stronger mydriatics to cause constitutional symptoms, or in cases of rare idiosyncrasy to set up severe inflammation of the conjunctiva and lids, is the essential check upon the free employment of these drugs. Paralysis of accommodation is here an important aid in combating the intra-ocular inflammation and complete giving up of eye-work a condition of the best recovery.

After paralysis of the pupillary sphincter has been obtained it is at least doubtful if mydriatics like atropin can do much more to secure the breaking loose of adhesions. It has long been taught that these drugs also stimulate dilator fibers of the iris, but the behavior of the normal pupil under them, scarcely supports the view of an active dilatation through stimulation. Of the active retractive influence of cocain, however, there can be little question,

and experience seems to show that the retractile force increases with the dose of the drug which gains entrance to the tissues. Still, cocain is not a drug to be freely prescribed, even in connection with atropin, in the treatment of iritis. It should rather be used by the physician himself in his mydriatic attacks upon the inflamed iris so that its effects can be closely watched.

The combination of cocain with homatropin and other mydriatics has been mentioned. The weak point of cocain used alone is its unfavorable influence on the cornea. The liability to cause serious impairment of the corneal nutrition is the reason for not prescribing it to be used by the patient. Strong solutions cause drying and irregularity of the corneal surface and irregular astigmatism. This may greatly interfere with the ophthalmoscopic examination or the shadow-test, and by impairing acuteness of vision may quite nullify the benefit of dilatation of the pupil for the tests with lenses. On the other hand homatropin interferes more with vision by paresis of accommodation and dazzling when in a strong light and entails a longer period of waiting for recovery. By combining the two the same dilatation of the pupil for practical purposes can be obtained by the use of much weaker solutions and the unfavorable influences of both be eliminated. For simple dilatation of the pupil of the normal eye I have found the following solution most satisfactory:

Homatropin hydrobromate . .	gr. i
Cocain hydrochlorate . . .	gr. ii
Distilled water	f ʒ i.

M.

A single drop of this is to be placed on the upper margin of the cornea. Its maximum effect is produced in about one hour. Recovery from its effects is well advanced in six hours and practically complete in twelve. It causes no irregular astigmatism, but slight impairment of accommodation, and permits a good deal of contraction of the pupil in strong sunlight. Euphthalmin and cocain, each one per cent., in distilled water, may be employed for the same purpose.

THERAPEUTIC NOTES.

Salicylic Acid for Furunculosis.—Philipson (*Deut. Med. Woch.*, May 4, 1899) advises the application of a plaster containing 50 per cent. of salicylic acid in the treatment of a well formed boil. This should be changed four or five times a day and the narcotic process will be much hastened. When the core is eliminated, treatment which favors granulation may be begun. Minute furuncles are arrested by the application three times a day of pure alcohol, or alcohol containing 5 per cent. of tincture of benzoin. Larger furuncles may be washed with alcohol containing 2 per cent. of salicylic acid, all washing with water and soap being omitted meanwhile. In generalized furunculosis the parts should receive a warm bath daily and then be rubbed with vaseiin containing 2.5 per cent. of salicylic acid.

Treatment of Chronic Otitis Media.—Lewy (*Therap. Monatshefte*, May, 1899) draws attention to the remarkable effects which can be produced by trichloracetic acid in chronic suppurations of the middle ear. The applications tend at the same time to close tympanic openings. Regeneration of the tympanum was obtained in the majority of the cases treated. The ear is first cocainized with a 10- or 15-per-cent. solution. A metallic loop upon which a crystal of the acid has been fused is then passed into the chamber and the mucous membrane cauterized by it. The edges of the tympanic opening are treated in like manner. For the latter one application a week will suffice. To obtain the arrest of suppuration in the middle ear it will be necessary to cauterize more frequently. The application is always painful despite the cocain, so that the saturated solution of the acid on a cotton swab is preferred by some to the solid crystal.

Aspirin or Acetyl-Salicylic Acid. — Wohlgemuth (*Therap. Monatshefte*, May, 1899) tested some of the compounds of salicylic acid in order to find one equally effective as salicylate of soda but less irritating. By the action of anhydrous acetic acid on salicylic acid he obtained white crystals of acetyl-salicylic acid, readily soluble in alcohol or ether, and to the extent of one per cent. in lukewarm water. The drug does not decompose in the stomach until it has been there two or three hours, so that it is to a great extent passed into the intestine unchanged and does not irritate the gastric mucous membrane as does salicylate of soda, which is decomposed almost as soon as it enters the stomach. The alcoholic solution of the new compound, aspirin, having such a bad taste, the drug was usually given in capsules. Its therapeutic effects are identical with those of salicylic acid, except that disagreeable gastric symptoms are almost entirely done away with.

Treatment of Appendicitis.—Osler ("Practice of Medicine") deprecates the attempt to treat appendicitis by any of the ordinary medicinal agents, holding that the disease is essentially surgical in character and that operation is indicated, whether a tumor exists or not, when by the third day the features of the case point to a progressive lesion. The mortality from early operation is very slight. The use of opiates or of salines or other cathartics is to be condemned, as the former may serve to mask the symptoms and the latter prevent the limiting adhesions by causing general peristalsis. The surgeon may be called in too late, but he can never be called too early.

Test Meal in Diseases of the Stomach.—The Ewald and Boas breakfast is the best test (Einhorn, "Diseases of the Stomach"). One or two rolls (35-70 gms.; 9-18 ʒ) and one cup of tea or water (300-400 c.c.; 10-13 ʒ)

are taken in the morning in a fasting condition. Thus any other particles of food, as meat or asparagus, if found in the gastric contents would evidently have remained from a previous meal. One hour after the meal the gastric contents are removed. They are best obtained by means of the soft rubber tube, which should have several openings at its lower end, and a glass tube from three to five inches in length at its upper end. This tube is first immersed in a pitcher of warm water. The patient, a bib or towel around his neck, sits holding a wide-mouthed bottle in his left hand, near his chest; the physician takes the tube from the pitcher, places the glass end-piece in the bottle, the patient opens his mouth, and the tube is inserted to the pharynx. The patient is told to swallow once or twice, and the tube is rapidly pushed with the right hand into the stomach (about 45 cm., 18 inches). (The physician need not introduce his finger into the patient's mouth.) The best method of ejecting the gastric contents is for the patient to exert pressure upon his stomach by means of his abdominal muscles (the Ewald-Boas expression method). The patient inspires deeply and then compresses his abdominal muscles in the same manner as during defecation. The gastric contents are thus expelled through the tube into the bottle. Before removing the tube the glass opening must be occluded. Then the tube is withdrawn quickly. The ingesta thus obtained are filtered and the filtrate is tested for: (1) Reaction. (2) Hydrochloric acid. (3) Lactic acid. (4) Acidity. (5) Propeptone. (6) Peptone. (7) Pepsin. (8) Rennet ferment. (9) Dextrin. (10) Erythrodextrin. (11) Achroodextrin. (12) Maltose. All these tests are described at length.

[Stomach-tubes are now made for this purpose, which are provided with a large bulb midway along their course. This bulb is compressed, after which it receives the stomach contents.]

Treatment of Chorea.—ANDERSON ("Contributions to Clinical Medicine") says that antipyrin, with the exception of some of the other coal-tar derivatives, is the only drug from the use of which cure may be confidently expected in the treatment of chorea. It is not the dangerous drug which it is commonly believed to be, but may be given with safety in very large doses even to children if the initial dose be small, and increased very cautiously. In many cases in which bad results have followed the administration of antipyrin the fault has been either in some impurity in the drug, or in an idiosyncrasy on the part of the patient. The initial dose should never be larger than 10 grains, and, if no bad results follow it should be rapidly but cautiously pushed until doses of 20, 30, or even 40 grains thrice daily are given. If nausea or vomiting occur, the drug should be omitted for a day or two. The results of this treatment of chorea are particularly good.

Treatment of Migraine.—W. H. THOMSON ("System of Practical Medicine," vol. iv). At the beginning of the attack, whether the stomach is full or not, lavage is of great value in the treatment, as it is important that all irritating substances should be removed from the stomach, and spontaneous vomiting does not always produce that result. Ergot is chief among the drugs to be used in treating the headache. It should be given in full doses, 1 dram of the fluid extract, combined with the same amount of the elixir of cinchona, repeated in two hours if necessary. If the drug causes the stomach to rebel, as is sometimes the case, the same dose, diluted with 2 ounces of warm water, may be given by the rectum. The coal-tar derivatives are very often efficacious, if the patient remains quiet after the administration of the drug, and the effect is increased if a dram of the aromatic spirits of ammonia in water be given just after the 10 or 15-grain dose of antipyrin or phenacetin, which should be repeated in three hours if necessary. In some cases the nitrate of strychnin, in doses of $\frac{1}{40}$ of a grain, or the tincture of nux vomica, in doses of 10 drops is useful when the antipyrin or phenacetin seems to be losing its effectiveness. In other cases relief is best obtained by the use of caffein in doses of from 2 to 3 grains, repeated in one hour if necessary. These are the cases in which nausea and vomiting are not prominent symptoms. Five- to 7-drop doses of the tincture of gelsemium, combined with from 15 to 20 grains of ammonium bromid, will often relieve the headache, but not the nausea. But the most important therapeutic indication is to prevent the recurrence of attacks. Systematic open-air exercise of a pleasurable kind, but not involving muscular fatigue, and elimination from the diet of such articles of food as are found by experience to cause attacks, are indicated. Except in the cases in which gastric catarrh (a condition which is not often found in migrainous patients) is present lavage of the stomach is contraindicated. The stimulating effect of a tumbler of hot water containing 1 dram of sodium phosphate and 1 grain of quinin or 5 grains of sodium salicylate on rising in the morning will often prevent the occurrence of headache. The acidulated preparations of phosphorus and pepsin are often beneficial, as:

℞ Acidi phosphorici diluti . . . ℥ iss
Tinct. nucis vomicæ . . . . ℥ ii
Syr. hypophosphitis . . . q.s. ad ℥ vi.
M. Sig. Two teaspoonfuls in water after meals; or

℞ Acidi lactici . . . . . ℥ iv
Ess. pepsinæ . . . . . ad ℥ vi.
M. Sig. Two teaspoonfuls after meals.

In cases in which the attacks occur with tolerable regularity at about a week's interval, the habit may be often broken up by the administration of 1½ grains of calomel in six fractional doses, given at quarter-hour intervals, followed by a saline cathartic on the day before the attack is expected. When patients have intestinal dyspepsia with brown tongue, mercurial laxatives are indicated and it is well to follow these with a systematic course of 10 grains each of salicylate of bismuth and sodium benzoate in capsules, to be taken one hour after meals.

For Hypertrophied Tonsils.—CASPEX advises irrigation twice a day, using the following solution:

℞ Resorcin . . . . . gr. lxxx
Betanaphthol . . . . . gr. v
Aquæ . . . . . Oii.
M. Sig. For irrigation of tonsils and pharynx.

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SANARELLI AND THE PATHOGENIC ROLE OF THE BACILLUS ICTEROIDES.

Much has been written in this country in criticism of Sanarelli's work on yellow fever. It has been a fair and shining mark for the shafts of the general commentator as well as the bacteriologist. With its author at a good and seemingly safe distance away it has been comparatively easy to find more or less obvious objections to his technic and rather patent faults in his conclusions. We are very glad, then, if for no other reason than for the sake of the good old-fashioned American spirit of fair play, to be able to present this week to our readers Professor Sanarelli's answer to his critics. We venture to say that it will be found effective and complete. While it is a little more personally controversial in tone than we might have wished, we think that there will be found in the circumstances that called it forth some justification for thus treating the subject.

Sanarelli proves well able to dispose effectually of certain objections that carried considerable weight against his theory of the specificity of the bacillus icteroides in yellow fever. The fact that the bacillus described by him was able to withstand exposure to very low temperatures without losing its vitality or virulence has been supposed especially to militate against the notion of its etiological connection with yellow fever, since that disease, as is well known, usually disappears at once after the occurrence of the first frost. This behavior of Sanarelli's bacillus in the presence of low temperatures, first brought to public attention by Novy in the columns of the Medical News, has been a favorite argument against the value of Sanarelli's work by those who controverted his conclusions as to yellow fever. Sanarelli, we think, shows that the objection really has no weight, and that though many micro-organisms cease to reproduce their kind so luxuriantly at low temperatures as they do at higher ones, yet they by no means lose their vitality, but may be awakened to reproductive activity by favorable conditions. His reference to some of our American yellow-fever epidemics during which the disease raged virulently despite zero weather is an especially telling point in favor of this view.

In general it way be said that while at first the current of bacteriological criticism set in strongly against the acceptance of Sanarelli's discovery the present trend of bacteriological literature is quite as strongly in his favor. Sanarelli himself has been able to make abstracts from no fewer than twenty-two papers which have appeared during the past year whose authors are all agreed that the bacillus icteroides is the cause of yellow fever. The writers are all practical bacteriologists who, in various countries (at least four), have done experimental work with the bacillus, and whose conclusions are the result of their study of some special feature of the pathogenic properties of the new microbe.

One of the most striking testimonies recently presented is contained in a private letter to Sanarelli himself from the head of the United States Yellow-Fever Commission of the Marine Hospital Service, which has been conducting its investigations at Havana. The letter is dated May 31, 1899, and expresses the heartiest commendation and sincerest admiration for Sanarelli's great work and the Commission's entire agreement with his conclusions.

The letter is all the more interesting as it anticipates the official publication of the final results of

the investigation which will only come in the regular course of official reports. It would seem, then, that as far as practical applications are concerned the medical world is bound to accept the weight of authority that has accumulated in favor of Sanarelli's discovery as a sufficient guarantee of its genuineness and that quarantine and therapeutic work in yellow fever at all our exposed ports must be carried on with this idea in view. The definite acceptance of the bacillus icteroides as the cause of yellow fever will simplify studies of the disease, make precautions against it easier to take, and, above all, will arouse medical and general confidence in the promising method of treating the disease by an antitoxic serum that Sanarelli's own work has pointed out as feasible.

ANTISEPTICS IN FOODS.

The adulteration of food is so often a harmless cheat that little notice is taken of it. One form of adulteration, however, which is only a few years old, has received considerable attention from scientists and physicians and under the title "embalmed beef" recently interested every one in America, from the President to the smallest newsboy. We refer to the addition of antiseptics, especially salicylic and boric acid, and more recently formalin, to perishable foodstuffs. How bitter were the denunciations of men who would add these things to the soldiers' meat! How calmly we go on allowing the sale of milk which contains them to feed the poorer children of our cities!

This may seem like an unwarrantable assertion, but there is strong probability that it is the exact state of affairs, judging from the meager reports of analyses published in America, and the fuller ones published by Public Analysts in England. In the latter country there have been officials of this character since 1860, and a great deal of law-making to prevent the adulteration of foods, and numerous convictions with some pretty severe penalties for infringements. And yet, in the report of the Public Analyst for Birmingham for the three years ending March, 1899, it is stated that one of the three antiseptics mentioned above was found in 460 out of 2300 specimens of food examined, just 20 per cent. Boric acid was found in 35 per cent. of the 882 specimens of butter examined, sometimes in such quantity that the water in the butter would not contain it, and it existed partly in crystals. More recently it has been in part superseded by formalin as a preservative for milk, this substance being found in 47 out of 1000 specimens examined.

Here is a field which invites the more assiduous attention of the Board of Health of our own city. While not inclined to deprecate the value of the scientific investigation of rabies, for example, it is of more immediate concern to know that foods are free from such injurious preservatives, and especially that milk is not so polluted. Not only do these chemicals render it difficult of digestion, but they enable a dealer to pass off stale milk, or milk which has been carelessly handled, as fresh, clean milk, thus doing the consumer a double injury.

OPERATIVE INTERVENTION FOR TUBERCULOSIS OF THE KIDNEY.

In his paper on "Tuberculosis of the Kidney as an Indication for Nephrectomy," which we publish this week, Dr. Reynolds deals in a very practically suggestive spirit with a difficult question in surgery. The battle with that most fatal scourge of humanity, the white plague of the North, tuberculosis, is on all along the line and surgical intervention for its lesions is, when practicable, the ideal treatment. The present work in renal surgery for tuberculous conditions is thoroughly scientific and conservative and is worthy of the best effort on the part of those who have to do with the surgery of this organ. The methods and results of the work deserve careful attention and study.

The catheterization of the ureters in the female, thanks to the work of Kelly and Pawlik, has become comparatively simple and when combined, as suggested in Dr. Reynold's paper, with centrifugation of the urine and injection of the sediment into susceptible animals, the procedure constitutes a diagnostic auxiliary that is almost infallible and which can be relied on to furnish unfailing indications for or against even so grave a surgical procedure as nephrectomy.

We no longer believe that micro-organisms can pass through a healthy kidney, and therefore when we are able to demonstrate in the urine taken directly from a ureter the presence of tubercle bacilli, it points inerrably to the existence of a tuberculous

focus somewhere in the upper urinary tract of that side. The indication thus furnished for nephrectomy is an absolute one.

It must be remembered, moreover, that the recent labors of Caspar and Nitze in Berlin and of their followers all over the medical world, have made it evident that catheterization of the ureters in the male is very often, certainly in a majority of cases, not only possible but comparatively easy. The collection of the urine directly from a ureter gives much more reliable information than does even an exploratory lumbar incision since the external surface of the kidney when exposed to inspection may be perfectly healthy, and yet a tuberculous focus exists in the interior of the organ. Communications of pathologic processes occur much more readily with the pelvis of the kidney than they do with its external surface. When the tuberculous foci are very limited in extent and therefore most hopeful for operation, they will often permit the discharge of tubercle bacilli into the urinary passages. The chances for early diagnosis and operation are rendered with this method very promising indeed.

It would seem, then, to be only a question of a short time until the puzzling cases of progressive tuberculous renal trouble running their course without any definitely pathognomonic symptoms that reveal the real cause with any assurance to ordinary diagnostic methods will cease to be the *opprobrium medicinæ* they have been up to the present time. The most striking uniform symptom in such cases is often a hopelessly progressive emaciation, which yields to no medicinal treatment and so makes them veritable nightmares for the medical attendant having them in charge. The encouraging results reported by Dr. Reynolds appear to indicate that these sad cases are now brought within the realm of hopeful therapeutics, and justify an abundant confidence in the future of renal surgery for tuberculous conditions.

ECHOES AND NEWS.

Yellow-Fever Epidemic Disappearing.—It was reported on August 7th that no new cases of yellow fever had developed at the Soldiers' Home at Hampton since August 1st. The patients at the Home are all convalescing.

New Trees in the Adirondacks.—Professor John Gifford, who has been elected to the chair of forestry in Cornell, reports that over a million small trees of different varieties have been planted within the past year on the 30,000 acres owned by Cornell near Axton in the Adirondacks.

Sir William Stokes and the International Medical Congress.—Sir William Stokes, Surgeon-in-ordinary to the Queen of England has been appointed and has expressed his willingness to serve as one of the honorary presidents of the International Medical Congress, to be held in Paris next year.

Cows Spread Typhoid Fever.—Thirty cases of typhoid fever occurred in Flushing, L. I., during July. It is declared that the disease was spread by one milkman, whose name is withheld, who has a pond of stagnant water on his place in which are typhoid-fever bacteria. His cows had been drinking this water.

Lunacy in England and Wales.—In England and Wales the lunatics on January 1st of the present year numbered 105,086, an increase of 3114 over 1898, the largest increase yet recorded. An analysis shows this spread of lunacy is not confined to any one class, although naturally the largest increase is among paupers. The situation is regarded as so alarming that an early official inquiry is demanded into the causes and the best means of combating them.

Race Winnings and Charity. — It is reported that the Duke of Westminster has presented the sum of £10,000, the amount won by his horse, Flying Fox, in the Eclipse stakes at Sandown Park some weeks ago to the Royal Alexandra Hospital, Rhyl, of which His Grace is president. The London *Lancet* says in comment on the matter: "We commend this excellent example to other owners who race for the love of the sport and not for filthy lucre."

Trained Chiropodists for the British Army.—As so much depends on the soldiers' feet in the movement of large bodies of troops, the British Army authorities have decided to train certain of the non-commissioned army officers in chiropody. The experiment has been tried already and has been found to add greatly to the efficiency of the troops. It is thought now that a permanent corps of chiropodists will be trained as soon as possible, and their services made available for all the infantry battalions.

A Surgeon behind His Gun.—The London medical journals make much of the fact that at the recent army contests in sharp-shooting in England the most consistent shooting at the meeting was done by a member of the medical profession. Surgeon-Lieutenant Bertram of the Canadian team proved to be the best general score-maker and comes home as a consequence with a number of medals and prizes, though not with the medal for the best marksmanship, for which he was beaten by a slight margin.

Comparative Mortalities from Tuberculosis. — According to recent statistics published in *La Nature* the following is the number of deaths per million of inhabitants annually from tuberculosis in the countries named. In France, 2823 per million; in Switzerland, 2715; in Hol-

land, 1918; in Japan, 1194; in Austria, 3682; in Italy, 1340; in England, 1568. In all of them there has been a notable reduction of the mortality in recent years, and it is hoped to still further reduce the mortality from the dread disease.

An Epidemic of Poliomyelitis.—An epidemic of what Dr. J. W. Poucher, a resident of Poughkeepsie, N. Y., considers to be poliomyelitis has been prevailing among the children of that city. Up to August 4th there were fifty cases, with but one fatality, which possibly was really a case of spinal meningitis. The causation up to that date had not been satisfactorily demonstrated. Drs. D. M. Sheedy of Poughkeepsie and H. D. Chapin of the Post-Graduate Hospital, New York, are making microscopic and other investigations.

A New Theory in the Etiology of Appendicitis.—Dr. Alexander Haig, whose works on gout and uric acid are well known, recently suggested that in a large number of cases of typhlitis and appendicitis the primary lesion was a gouty affection of the fibrous tissues in the neighborhood of these structures. He suggested also that the proper treatment for many cases under these circumstances was the administration of large doses of salicylate of soda or other salicylates. Of course a certain number of cures with the remedy have already been reported, others will doubtless follow.

Aural Menstruation.—The Paris correspondent of the *Medical Press and Circular*, London, reports a case of this anomaly related by Dr. Lermoyez of Paris. The patient had each month prodromic symptoms such as lassitude and headache, and then a thin stream of blood flowed from the right ear. No lesion of any part of the organ could be discovered. The tympanum was intact, but the cutaneous vessels of the external auditory canal were much enlarged. At the end of three years the vicarious menstruation ceased and the menses came through the ordinary channels.

Smallpox Outbreaks.—Up to August 3d there had been some thirty cases of smallpox in Pittsburg, and neighboring towns, all of which places are on the line of the Pennsylvania Railroad. No money has been appropriated for the establishment of a quarantine, and an appeal has been made to the Westinghouse Electric Company for funds for the purchase of vaccine virus and for quarantine expenses. An epidemic of smallpox has broken out in Claiborne County, Tenn., on the Kentucky border. It is believed that the efforts of the authorities to prevent the spread of the disease will be successful.

Caterpillar Rash —There is a tradition in some parts of the country that the handling of certain species of caterpillars produces a rash. A correspondent of the *British Medical Journal* for July 29, 1899, reports a series of such cases in children who had been handling caterpillars of the woolly-bear variety, the ordinary, brown, hairy caterpillar. The lesions were erythematous patches accompanied by almost intolerable itching. The spots appeared on exposed parts of the face and neck though the hands were not affected. The itching yielded to ordinary remedies and the erythema disappeared in twenty-four hours.

Munchausen up to Date —The following testimony was recently given by a woman at the anniversary services of faith-cure believers, which was held at Mount Zion Sanctuary in Chapel avenue, Greenville, New Jersey: "This man when young, spilled some acid in his eyes and destroyed the sight of both. The physician removed his eyeballs and he was totaliy blind for many years. He was finally persuaded to pray for the restoration of his sight. Shortly afterward he felt something growing in the places where his eyeballs had been. New eyes were given to him, and to-day he can see as clearly as any person here."

Tuberculosis in Cattle.—The special Assembly committee appointed to investigate the operation of the present laws in relation to tuberculosis and other contagious diseases in animals and infections in animal products met at Albany on August 1st. Dr. Edward Moore, a veterinary surgeon of Albany, declared that when tuberculosis in cattle is common human tuberculosis is so rare as to bear no relation to it and that bovine tuberculosis is not communicable to man. Dr. Moore declared that the State Board of Health has failed to produce facts to prove its contention that bovine tuberculosis is communicable to the human subject.

The Doctor and His Patient —Professor Osler, in an address delivered before the students of the Albany Medical College recently said: "You must feel that you have entered upon a profession that appeals both to the head and to the heart. Dealing as we do with poor, suffering humanity, we see the man unmasked, exposed with all his frailties and weaknesses, and you have got to keep your heart pretty soft and pretty tender not to get too great a contempt for your fellow creatures. The best way to do that is to keep a looking-glass in your own hearts, and the more carefully you scan your own frailties the more tender you are for the frailties of your fellow creatures."

Cockles and Typhoid Fever.—According to the London *Lancet* a number of cases of typhoid fever have been occurring recently in and around Chichester, England, whose origin has been wrapped in mystery. Since the beginning of the year fifty-five cases have occurred. In not less than twenty of these it was found on careful inquiry that cockles had been eaten within ten days of onset of the fever. It has practically been decided by the authorities that the cockles, which are gathered from places somewhat liable to be affected by sewage, may be the cause of the disease, and that not alone the more delicious bivalves, but the more vulgar shell-fish may contain the germs of disease. Bacteriological investigations to absolutely decide the question are now in progress.

The Appetite of the Russian.—The *Philadelphia Telegraph* describes the dinner given by a Russian naval officer, at present staying in Philadelphia, to his brother officers. By way of an appetizer there was served salt fish,

smoked salmon, imported herring, bologna sausage, pickles, potato salad, vodki—Russian whisky—and American whisky. An hour later the dinner proper began. A Russian vegetable soup "of excellent savor, but unspellable, and to an American unpronounceable" was first served. Next came a whole baked salmon "of regal dimensions" stuffed with brown, cracked wheat. This was followed by an entire roast pig, whose "in'ards" were filled with vegetables. Next came a peculiar Russian pie of meat, fish and vegetables, cut into slices and garnished with mustard. Then a Russian salad and lastly dessert, the whole having been convoyed with champagne and liquors galore.

Next Year's Congresses at Paris.—More than 100 international congresses of various kinds are to be held in Paris next year during the course of the Exposition. A certain number of these of more special medical interest have already been announced in the columns of the MEDICAL NEWS Just about the time of the International Medical Congress that of from August 2th to 9th the following congresses on subjects of more or less importance to medical men are to be held: An International Congress of Applied Chemistry from July 23d to the 31st; International Congress for the Amelioration of the Condition of the Blind, August 5th; International Congress of Public Charities and Philanthropy, July 30th to August 5th; International Congress of Deaf Mutes during the first week in August; International Congress of the Medical Press sometime during Medical Congress week; International Dental Congress, August 8th–14th; International Congress of Professional Relations and Deontology (the science of duties) from July 23d–28th; International Congress of Psychology, August 22th–25th; International Congress of Hygiene, August 10th to 17th.

Anchylostomiasis in Belgium.—According to a recent report of the French resident consul at Liege, in Belgium, anchylostomiasis, that is, the anemic condition due to the growth of the so-called anchylostomum duodenale in the intestines, is very prevalent among the coal-miners in the neighborhood of Liege. It has attacked principally the older miners. The disease is caused by the swallowing of anchylostomum eggs which usually find their way into the drinking-water of the workman because of carelessness about cleanliness and negligence in the matter of excreta. There has not been so far as we know any epidemic of the disease in this country but any one afflicted with the disease might easily bring about its introduction and the habits of our workmen in mines, tunnels, brickyards and the like, where infection usually takes place are such that the disease would readily spread. Meantime obstinate cases of anemia occurring particularly in men who come from the Low Countries, or from the region around Dusseldorf or Cologne on the Rhine, or from the Northern part of Italy, should be suspected and their tools carefully examined for the eggs of the parasite.

International Congress of Hypnotism.—The Second International Congress of Experimental and Therapeutic Hypnotism is to be held next year in Paris from August 12th to 15th. The last international congress on this subject met in 1889. The next meeting is to be held under the auspices of the French Society of Hypnology and Psychology, which has over 150 members and publishes a monthly magazine the *Revue de l'Hypnotisme.* The acting president of the forthcoming congress is Dr. Jules Voisin, the well-known alienist and author of several works on idiocy and allied subjects, who is one of the attending physicians at La Salpétrière. A number of well-known authorities on the subject of hypnotism have expressed their willingness to be present and read papers, among others Professor Grasset of Montpelier, Drs. Vogt of Berlin, Lloyd Tuckey and Milne Bramwell of London, Schrenk-Notzing of Munich, Bernheim and Liegois of Nancy, Tokarski of Moscow. A number of invitations have been issued and those who are interested in the subject and contemplate attending the meetings, are asked to communicate with Dr. Nerillon, 17 Rue des Beaux Arts, Paris.

Medical Education in Kentucky. — The State Board of Health of Kentucky has given notice that it will hereafter refuse to recognize as a basis for certificates to practise medicine diplomas from any medical college which does not in good faith comply with the requirements of the American Medical College Association, the American Institute of Homeopathy, and the American Eclectic Medical College Association, respectively, both as to preliminary education and four-years' course of study. This means that no school that graduates three-year students will be recognized in Kentucky hereafter. The Board provided an examination for three-year graduates of the present year, as many of the students had attended such schools in ignorance of its advanced requirements, but found this course unsatisfactory, a large percentage of the examinations indicating incomplete preliminary education as well as imperfect medical training. This standard for the State of Kentucky was made and promulgated in 1891, to take effect the present year, but is again published that schools patronized by Kentucky students and future graduates expecting to practise in the State may fully understand the requirements of the Board.

MEDICAL MATTERS IN NEW YORK.

COMPTROLLER'S PLAN TO RETRENCH—BOGUS HEALTH INSPECTORS—DR. CROWE IS "WANTED"—PATIENTS SAY THEY WERE CLUBBED— DEATH-RATE IS LOWER —REPORT OF CONTAGIOUS DISEASES.

COMPTROLLER COLER is preparing plans for cutting down the city budget for 1900. If these are carried out the city will be saved at least $5,000,000 next year. In the very first place Mr. Coler will recommend a big reduction in the amount of money appropriated to charitable institutions controlled by private corporations or individuals. He will urge that many such institutions be cut off the list and that the amount allowed to others be reduced. His plan, if adopted, will result in a saving of possibly $1,000,000 a year in the appropriation for public charity alone.

A number of unauthorized persons have been visiting

private houses in the guise of sanitary inspectors in the service of the Health Board. Some have demanded fees and others have attempted a species of blackmail, threatening to perform obnoxious acts if they were not "called off" by means of money bribes. A woman complained on August 3d to President Murphy of the Health Board that a man exhibiting a card on which was printed "H. Burnet, M.D.," called and insisted, in the name of the Health Board, on going through her house. He wanted to take some of the furniture away to be disinfected, and he also wanted to look over all the clothing in the house.

Dr. S. W. Crowe of No. 228 West Forty-seventh street is wanted by the police, firstly, for disturbing the peace, and secondly, to pay damages, *to wit:* "to one hole burned in the asphalt of Longacre Square." The facts in the case are about as follows: One William Waldorf Astor, erstwhile an American citizen, has become a humble subject of a foreign potentate. This renunciation of allegiance to these United States greatly incensed Dr. Crowe, whose patriotism seems to be of an exceedingly virile and robust sort. Dr. Crowe expressed his contempt by making an effigy of Mr. Astor, which, with a barrel filled with combustibles and several gallons of kerosene, was put on a truck, the doctor having been aided in the transfer by some thirty of his fellow patriots, each of whom he rewarded by the payment of $2. The truck was then driven down Broadway to Thirty-fifth street, followed by an admiring crowd, until it reached the saloon owned by Mr. John L. Sullivan, at one time a noted pugilist. Here Dr. Crowe "set up the drinks" for everybody in sight, after which his enterprise had the honor to receive Mr. Sullivan's unqualified commendation. "This country would be all right," said this exemplary "gent," "if all the citizens wus like you." The procession augmented on the route by hundreds of Tenderloin habitués, then returned to Longacre Square, many exciting incidents transpiring on the way. Here the "cop" being, as usual, conveniently absent, the effigy of Mr. Astor was burned, the assembled multitude applauding vociferously the while. During the burning Dr. Crowe made a speech, which was disturbed by the altogether unexpected arrival of the "cop," on seeing whom Dr. Crowe cut short his speech and disappeared ignominiously in the crowd. Up to the present writing the police have not found him.

John Curtis was taken to Roosevelt Hospital on August 2d, suffering from a fractured skull. On the same day William Harvey, eighteen years old, was taken to St. Vincent's Hospital, suffering from a broken jaw and other injuries. In both these cases it is declared the clubs of policemen did the damage; and there is not the slightest reason to doubt the assertion. These incidents are details which, with many others, show how we are reverting to the halcyon days of Tweed, and, how, even in those days, the city was not so outrageously misgoverned as it is to-day. In this connection we recall the classic excuse of the "cop" who was accused of unnecessary clubbing. "Sure, it wasn't me hit him. He run up agin me noight-stick."

The report of the Bureau of Vital Statistics for the week ending July 29th shows 821 deaths in the borough of Manhattan, against 848 for the corresponding week last year. The percentage was 20 24, as against 21.60. There were twenty-five deaths due to "heart-failure". This phrase is often used to avoid specifying the cause of death. It means no more than "failure of respiration" would. Such cases should be referred to the coroner.

Following is the report of contagious diseases for the week ending August 5th: Measles, 156 cases, 8 deaths; diphtheria, 155 cases, 19 deaths; croup, 1 case, 4 deaths; scarlet fever, 54 cases, 5 deaths; chicken-pox, 8 cases; tuberculosis, 150 cases, 122 deaths; typhoid fever, 43 cases, 15 deaths; cerebrospinal meningitis, 11 deaths; totals, 567 cases, 184 deaths.

MEDICAL MATTERS IN CHICAGO.

A CASE OF DIVINE HEALING—A NEW HOSPITAL TO BE ADDED TO THE MATERNITY DISPENSARY OF THE BUREAU OF ASSOCIATED CHARITIES—YOUNG WOMAN'S AUXILIARY CHARITY—MEDICAL BOARD OF THE DISPENSARY — VIOLATION OF ICE REGULATIONS—COLLECTION OF GARBAGE TO BE UNDER THE CONTROL OF THE CITY HEALTH DEPARTMENT.

As a result of the disclosures made concerning the death of Mrs. Annetia Flanders, who was treated with "divine healing" by a Mrs. Bratz, the State Board of Health has decided to institute an investigation of the "divine healing" method, as carried on by the Zion Home and the Divine Healing Mission of Dr. John Alexander Dowie, under whose direction Mrs. Bratz practises. Attorney John A. Barnes, counsel for the Board, will enter suit against Mrs. Bratz for practising in the Flander's case without a license. He will also take immediate steps to secure the revocation of the license of Dr. John G. Spelsher, who is an official of the Dowie Institute, on the charge that the latter has made a practice of signing death-certificates without finding out the cause of death. It is the intention of Attorney Barnes to summon all the officials of the Dowie Institute as witnesses to testify on the process of "divine healing." The evidence which he has obtained concerning the death of Mrs. Flanders has warranted an order from the State Board of Health for an examination into the practices of the promoters of this institution. The State Board of Health has been after them for a long while, and Mr. Barnes believes that he has procured tangible means of bringing certain persistent offenders to justice. There is not much question in his mind that the developments will surprise persons who are not familiar with the work of Dowie.

Adherents of the faith of divine healing insist that they are exempted from prosecution by the same law under which the State authorities expect to proceed. This act provides that "any person who treats or prescribes to treat any physical ailment or injury without a license shall be liable, and that the act shall not apply to surgeons of the United States Army, Navy, or Marine Service in the discharge of their official duties, or to any person who ministers to the sick and suffering by mental or spiritual means without the use of any drug or material remedy."

The outcome of this case will be watched with much interest both by the laity and the medical profession.

During this month a hospital will be added to the maternity dispensary of the Bureau of Associated Charities. It will be in Ashland Boulevard. During the five years the institution has been established members of the medical staff, including Drs. E. J. Doering, Henry T. Byford, N. S. Davis, Jr., and Henry B. Favill, have attended 3000 maternity cases in individual homes. While the outside work will be continued, it has been found advisable to provide a hospital where patients may be taken from their unsanitary surroundings and properly nursed during illness.

A charity which has been conducted in connection with the dispensary, and which will continue with the hospital, is that of the young woman's auxiliary, which supplies clothes for the mothers and their infants. The hospital will be under the direct supervision of Mrs. E. C. Dudley, wife of Dr. E. C. Dudley, with Mrs. E. E. Koch as head nurse.

The dispensary was founded by Dr. Joseph B. DeLee, who appreciated the necessity of providing scientific treatment for the poor in maternity cases. He also realized the great value such work would be to students of medicine, and since the inception of the scheme he has labored untiringly for its success. The work has progressed and is increasing steadily.

The medical board of the dispensary consists of four consulting physicians, three obstetricians, ten physicians for the treatment of special diseases, and eight resident physicians. During the year ending February, 1899, 93 students and 17 doctors, including internes, were engaged in the work, and 10,631 visits were made to patients. Students were furnished by eleven colleges, among them being Rush, College of Physicians and Surgeons, the Northwestern University Medical School, University of Michigan, the Toronto Medical College, etc.

Imperative orders to arrest all violators of the ice-inspection regulations were issued by Commissioner of Health Reynolds a few days ago. The intention is to catch the small retail dealers, expressmen, and peddlers, who engage in the trade without paying a license, thereby escaping the inspection system. Dr. Reynolds estimates that there are more than one hundred of these small offenders. They sell ice in the poorer districts in direct violation of the inspection regulations and contrary to the general health ordinances. The department officials say they procure ice which, under the department regulations, should be used for cooling purposes only, and retail it for culinary and domestic purposes. This is considered a menace to the health of the purchasers, and for this reason Commissioner Reynolds is having his subordinates make a hard effort to break up the practice.

Control of the collection of garbage by private contractors will soon be entirely in the hands of the Health Department of this city, and Commissioner of Health Reynolds promises to enforce regulations which will remedy the existing conditions. At its last session the city council passed an ordinance authorizing the Health Commissioner to license private garbage collectors and to establish regulations governing the traffic. So soon as Dr. Reynolds completes his regulations, upon which he has been working for some time, they will be put in effect. The private collectors who do the work in the down-town districts have no connection with the city garbage forces. They simply remove refuse from hotels, restaurants, and wholesale establishments, from which collection by the city is not required in the ordinances.

CORRESPONDENCE.

AS OUR FRIENDS SEE US.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Some years ago the *New York Medical Journal* did me the honor to publish an article treating of the correct formation of new medical terms. Since then much has been said about "purity" of the linguistic source of such terms. The papers in your issue of April 22, 1899, set me to thinking on the subject again. In all these discussions I have not observed that any one considers the common origin of Greek, Latin, Russian, Teutonic, et cetera, and, of course, a nearness of spirit in the natural forming of thought-expressing vocables. In the physiology of animal and vegetable forms the wise selection and combination of individuals from kindred stocks usually produce good results. In the making of new, significant expressions, why not choose those which will give (1) the meaning; (2) ease of enunciation; (3) terseness; (4) beauty of sight and sound. When we consider the source of the various elements thus composed (or compounded) a liberal mind may well hesitate before deciding that they are hybrid. Hybrids die out; such forms live on.

Permit me to express my pleasure and appreciation anent the excellent conduction of the MEDICAL NEWS. During recent months I have especially enjoyed the editorials for the judicial and judicious tone, together with the evidences of the mind, esthetical in rhetoric and poesy, that lives and shines through all.

Sincerely yours,

FRANKLIN B. STEPHENSON,
Surgeon, U. S. N.

U. S. S. "OREGON,"
MANILA, PHILIPPINE ISLANDS,
June 28, 1899.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

ORIGIN OF THE PLAGUE IN EGYPT—SMALLPOX AND VACCINATION IN INDO-CHINA—COMPARISON OF TUBERCULIN AND TONALBUMIN OF TUBERCULOSIS—COLI BACILLI FOUND IN SPUTUM OF PURULENT BRONCHITIS—TREATMENT OF PELVIC HEMATOCELE—OPERATION FOR IMPERFORATE ANUS PERFORMED THREE DAYS AFTER BIRTH—RELIEF OF PROSTATIC HYPERTROPHY—BRONZING OF THE SKIN PRODUCED BY ARSENIC MISTAKEN FOR ADDISON'S DISEASE—VICARIOUS MENSTRUATION FROM THE EAR—TYPHOID FEVER IN PARIS.

AT the Academy of Medicine, July 4th, PROUST spoke of the reappearance of the plague in Egypt, after a free

interval of fifty-five years. The pilgrimage to Mecca could not in this instance be held responsible, since the outbreak occurred before the pilgrimage began. It came from Bombay, probably by a steamer. All of the forty-two cases officially reported up to date were of the bubonic type, except one pneumonic one. Forty per cent. of the cases were among Europeans. On account of the finding of dead rats in the houses, the physicians of Alexandria hold to the theory that these animals were instrumental in the spread of the disease.

Hervieux communicated to the Academy, July 11th, a note upon the ravages of smallpox in Indo-China, where there are no adequate measures against the spread of the disease, and where vaccination is pretty generally unknown, especially in the provinces. Smallpox causes more than two-thirds of the total infant mortality, and only five out of one hundred adults are without the marks of smallpox. To it is ascribed more than ninety per cent. of the cases of blindness. In Laos all the children were slain by an epidemic, so that the men were obliged to go to Siam for their wives, there being no young girls left in their own country. Hervieux urged the estalishment of compulsory vaccination, upon both humanitarian and economic grounds.

At the Biological Society, June 17th, Gouget and Bezancon compared the poisons produced by tubercle bacilli. Their experiments showed that besides the well-known tuberculins there is another poison produced by the bacilli—a toxalbumin. The former produce a rise of temperature when administered to guinea-pigs. The latter depresses the temperature. Like the toxins of tetanus and diphtheria it is destroyed by heat. The experimenters were not able to separate it perfectly from the tuberculin, so that their preparations sometimes caused hyperpyrexia, sometimes hypopyrexia, and sometimes the two reactions successively.

At the session of July 1st Notca said that he had found a certain number of cases of bronchitis in which the fetor seemed due to the presence of coli bacilli. In three of them he had succeeded in isolating this microbe from the purulent sputum.

At the Surgical Society, June 27th, Reynier reported two cases of dangerous hemorrhage following incision into a retro-uterine hematocele, once by the vaginal and once by the inguinal route. The patients were saved by the prompt performance of laparotomy, and he did not hesitate to say that such is the rational method of treatment of hematocele in Douglas' fossa—since severe hemorrhage is not an unusual concomitant.

Pozzi said that he had performed colpotomy, a great many times for retro-uterine hematocele, and if hemorrhage occurred, he had always been able to control it by tamponing with gauze.

Routier, July 5th, said that he was once an advocate of laparotomy for retro-uterine hematocele. He now reserved that operation for those cases in which the hemorrhage is plainly abdominal. When the hematocele is pelvic colpotomy is the natural operation. It is simple, gives free exit to the blood and placental débris, and the lesions in the tubes or ovary are usually so little advanced that they disappear by atrophy, without further operative treatment. The only objection to the operation seemed to be the danger of hemorrhage, and this ought to be controlled by tampons.

Chaput preferred colpotomy, reserving laparotomy for those cases in which there is severe and persistent hemorrhage.

Lucas Championniere said that laparotomy is not a more dangerous operation than colpotomy, and is preferable to the latter in the treatment of hematocele.

Tuffier classified cases of hematocele, that is, retro-uterine hemorrhage due to the rupture of a pregnant tube into adhesions in Douglas' pouch—as recent, old, or infected. In old and infected cases, colpotomy is the operation of choice, as it is less dangerous than a laparotomy, and equally as successful. It is otherwise in recent cases, for in these hemorrhage is to be feared. Twice he was obliged to leave clamps in position to control it. This is not surprising when one considers that the vascular supply is greatly increased not only at the site of the placenta, but in the omentum, intestine, and throughout the pelvic cavity.

Pozzi said that the matter could be summed up in the few words: perform a laparotomy if the tumor is abdominal and a colpotomy if it is pelvic.

Reyneir said that a few positive cases of hemorrhage had greater weight with him than many in which no hemorrhage occurred. He still insisted on the danger of colpotomy, which ought not to be undertaken unless all preparations had been made to go on with laparotomy if necessary.

July 12th, Broca described an operation performed upon a child three days old for imperforate rectum, the anus appearing normal. The operator, Caston, by a posterior perineal incision removed the coccyx, and found the lower end of the rectum nearly two inches (4 cm.) above the anus. It was drawn down with difficulty. The operation was successful. Comment was made that the operation performed was suitable to the case but was not to be recommended as a general operation for imperforate anus.

Pousson tested clinically the different indirect methods of overcoming hypertrophy of the prostate (orchidectomy, vasectomy, and angioneurectomy), all of which aim to overcome retention of urine by reducing prostatic congestion. Although this is an important factor, it is not the only one, and the problem of radical cure of hypertrophy of the prostate is far from solved. Regular catheterization, cystotomy, cystostomy, prostatotomy, and prostatectomy will each continue to find its application in certain cases. The attempt should be not so much to reestablish spontaneous micturition, as to provide for easy and complete evacuation of urine and thorough washing of the bladder by means of a catheter. The processes of the gland in the bladder produce angles which retain purulent urine after careful washing, and thus keep up the cystitis. Pousson performed prostatectomy eleven times with four successes as far as spontaneous micturition was concerned, and seven successes relative to the disappearance of cystitis and purulent urine.

At the Medical Society of the Hospitals, June 30th, ENRIQUET and LEREBOULLET showed a man aged forty-seven having a generalized melanoderma due to prolonged treatment with arsenic. For eighteen months he took daily 16 drops of Fowler's solution to cure eczema of the hands and feet. The bronzing of the skin appeared six months after he began to take the arsenic, and as he was thought to have Addison's disease the remedy was continued. No gastro-intestinal symptoms were noted, nor lumbar pains, nor general weakness. The amount of pigment and correspondingly the depth of yellow or brown, varied in different portions of the body. In general it was more marked in the folds of the flexor surfaces than elsewhere. There was almost no pigmentation of the hands and feet. Emaciation was only slight. After the drug was discontinued the color of the skin slowly changed toward normal.

July 7th, LERMOYEZ mentioned the case of a girl who began at the age of thirteen years to menstruate from the right external auditory canal, and who continued to do so every month for three years. Then menstruation from the uterus appeared and continued regularly, and the escape of blood from the ear grew less, and then appeared only every two or three months, and finally ceased altogether. There could be no doubt from the symptoms which preceded and accompanied this auricular hemorrhage that it was of catamenial character. The tympanum remained intact. The cutaneous vessels in the meatus were much enlarged, and the hemorrhage was produced by their rupture. There was no affection of the ear and the cause of the hemorrhage was difficult to determine. The girl could not be called hysterical, although there was present a certain degree of auditory anesthesia of the right side combined with a light hypo-esthesia of the tympanum and auditory canal. A coincidence of these two symptoms is one of the best-known signs of auricular hysteria.

THOINOT spoke of the prevalence of typhoid fever in Paris. When spring water was distributed through the city conduits to all the inhabitants it was hoped that the disease would disappear. Such had not been the case, however, and it was to be regretted that many of the sources of supply were not above suspicion.

WIDAL said that the populace was still ignorant of the need of boiling drinking-water and that it was the imperative duty of physicians to spread knowledge upon this point.

SOCIETY PROCEEDINGS.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting, Held April 19, 1899.

THE President, WILLIAM STEVENS, M.D., in the Chair.

TUMOR OF THE STERNUM OF TUBERCULAR ORIGIN.

DR. J. BLAKE WHITE: The following interesting case came under my observation recently. The patient was an elderly woman, between sixty and sixty-five years of age, who came to me about a year ago complaining of a great deal of pain which was referred to the lower right edge of the sternum. This region was very sensitive to pressure. Shortly afterward a tumor presented at the junction of the ninth and tenth ribs with the sternum. As it was thought to be an abscess, an exploratory operation was advised. With Dr. Stevenson's aid the patient was anesthetized and an incision made over the tumor, which proved to be a tubercular growth springing from the edge of the sternum and apparently the result of a tubercular perichondritis. The tubercular material was cleaned out, the surface of the cartilages carefully scraped, and the cavity packed with gauze. The wound is now healing and the patient is doing well. The tumor doubtless originated from a tubercular focus aroused as a result of a traumatism received by the patient some time previous. No other evidences of tuberculosis are present, but two of the patient's five children died of pulmonary tuberculosis following typhoid fever and they manifested the most pronounced evidences of general tuberculosis that I have ever seen in an extensive experience. In one of these the disease was of the most malignant general type, nearly all the joints in the body being affected and showing marked tubercular degeneration prior to death.

ENLARGEMENT OF LYMPHATIC GLANDS DUE TO INFLUENZA.

DR. S. H. DESSAU: I have lately seen a number of cases of enlargement of the lymphatic glands of the neck and of the inferior maxillary region as a sequel of influenza. This condition is undoubtedly due to a septic process which is going on in the vault of the pharynx. Dr. Jacobi called attention to this fact some years ago, but not long ago it was supposed that the enlargement of these glands was usually tubercular and it was customary, especially among the German surgeons, to extirpate them at once. In some of the cases I have seen as a sequel of influenza they go on to suppuration but as a rule they subside under treatment of the catarrhal process. I recently saw in my clinic a case in which two glands were involved and the swelling was so great that the lobe of the ear was elevated. At one time they became fixed, which is usually an indication for surgical treatment. The child's mother was very anxious to have me remove the glands, but I persuaded her to wait. Under the internal use of calcium chlorid, alternated with iodid of iron, the swelling gradually subsided and the child made a perfect recovery. As an early treatment of the adenitis I have found a local application of a twenty-per-cent. preparation of oleate of mercury most satisfactory.

DR. S. N. LEO then read the paper of the evening, entitled

A CONSIDERATION OF OUR HOMES.

The paper, which was a most exhaustive one, dealt with the sanitary and hygienic arrangement of dwellings with reference to the propagation and spread of infectious and contagious diseases. According to the author faulty plumbing and damp cellars are often the cause of infectious disease, and carpets, draperies, picture-frames, and wall-paper, act as factors in spreading such disease, by

harboring dust and germs. He recommended that all plumbing, basins, closets, baths, and sinks, be situated in an annex and not in the dwelling itself; that cellars be made dry and kept clean; that all garbage be disposed of speedily, preferably by burning; that hardwood floors replace carpets, draperies be dispensed with, and wall-paper discarded for some hard finish which will permit of washing down the walls. He also suggested that a spare-room on the top floor of every house be set aside for use as a sick-room and for isolation. The importance of thorough ventilation was dwelt upon and methods of disinfection described.

DR. PALMER C. COLE: The scope of the paper is so vast that it is very difficult to discuss it. I agree with the author in regard to many points but not in all. For instance, I do not believe that moisture under a house will *per se* cause consumption. Nor do I think it is necessary to boil any material one or two hours for the purpose of disinfection. It has been shown that no spores will survive boiling for two minutes, therefore prolonged boiling is a waste of time. The same may be said of dry heat, for bacteria and spores of bacteria are immediately killed by being subjected for a few moments to a temperature of 210° F. In speaking of disinfectants, the author has omitted formaldehyd, which is one of the most powerful germicides we have. I first employed it four years ago in a case of scarlet fever, and since that time it has been recommended by the Board of Health. As to the dust in the air, we have this always with us. The air is loaded with bacteria, but, fortunately, most of them are harmless, and even the pathogenic bacteria must fall upon a fitting soil or they perish. Dust can never be eliminated from our modern dwellings. The model house which the author describes would indeed be desirable, but I fear it is an impossibility.

DR. CHARLES A. LEALE: the subject of the paper is a most interesting one and the author has covered the entire ground. I know a number of instances in which disease has been caused by defective plumbing and one in which prolonged ill-health was traced to the filthy condition of the water-tank. When tank-water is used it should previously be boiled. The bacterial source of disease in water may be destroyed by the addition of a small quantity of alum, which coagulates albumen and thus kills animal life. This was used here with benefit when cholera was prevalent years ago. I consider a paper of this kind of great importance, for I believe that we can do more for humanity by preventing disease than by medication. In regard to sanitation and disinfection, we will do wonders if we follow Nature's teaching. I was especially struck with this while making an ascent of Vesuvius and noting the results of sulphurous acid gas. The inmates of the monastery a little way down the mountain enjoy good health and live to a ripe old age because of the pure air which they breathe.

DR. ROBERT NEWMAN: Plumbing, ventilation, heating, and lighting are matters of such importance that they are made the subject of a course of lectures in nearly all our large colleges. The sanitary plumbing of late years is a vast improvement and is constantly being perfected. I am told that the plumbing of a house built five years ago is entirely out of date at the present time because of the improved methods now in use. Lighting by electricity is also a step in advance.

DR. S. H. DESSAU: The paper has brought to my mind the fact that physicians should educate themselves in sanitary science which, according to the author, embraces a knowledge of architecture as well as sanitary plumbing, ventilation and disinfection. A number of the suggestions offered impress me as very apropos, while others seem rather involved. The setting aside of a room on the top floor of a dwelling for use as a sick-room is a most excellent idea. I agree with Dr. Cole in regard to the value of formaldehyd. The danger of infection of draperies and wall paper will be avoided if the formaldehyd lamp is employed during the entire progress of the disease, for in this way the germs are destroyed as they are given off from the patient. I consider this disinfectant one of the greatest improvements of modern times. I regret that the author did not offer some suggestions in regard to the proper ventilation of a house, for this is a most important point. The over-heating of our houses and the lack of ventilation are sufficient to condemn them from a sanitary point of view. If the medical profession would take up some of the points brought out in the paper and would keep them before the public, the men who build houses would eventually be obliged to build them on a different plan.

DR. A. M. JACOBUS: The author has given us a beautiful picture of an ideal but impossible city house. We should, however, see to it that the cellar of the house in which we live is not damp and that the plumbing is in perfect order—and the latter, at least, can be made practically perfect if the laws are carried out (and modern plumbing installed). My experience has been that a great deal of sickness is due to foul air from a damp cellar being carried up-stairs through the heating apparatus and otherwise, but I do not believe that typhoid fever or diphtheria can be caused in that way. If infectious-disease germs be present in the house-drain or water-closet pipes and these be leaky, of course occupants of houses may thus become infected. Another thing which requires attention is the heating of our houses. The modern house, especially the apartment-house, is over-heated and badly ventilated; the result being that the inhabitants are always ailing and especially with neuralgic and other nervous as well as pulmonary troubles.

As to filters, I approve of and believe the porous stone kinds to be absolutely necessary to insure pure water and especially to remove malarial and typhoid-fever germs, but I believe those filters which are made of wire, gravel, or charcoal, etc., to be not only worse than useless, but absolutely to be hotbeds for the cultivation of germs.

DR. L. DUNCAN BULKLEY: There can be no doubt that defective plumbing is a fruitful cause of illness. In an instance of this kind, the patient, a man, was ailing for years, suffering from cold-sweats, fever, and exhaustion. The plumbing was thought to be at fault and it

was thoroughly inspected, the usual smoke and peppermint tests being made, but nothing was found. The patient was so convinced that the plumbing was the cause of his illness that he obtained permission from the owner to investigate for himself. This he did, beginning at the bottom and going up to the top of the house, laying bare all the soil-pipes, and he was rewarded by finding a lead pipe so corroded that he could put his finger into it. New plumbing was put in the house and the man has not been ill since. The case is interesting because the government tests which were employed did not reveal the leaky pipe.

DR. HENRY LING TAYLOR: It is very difficult to build houses on hygienic principles in the city on account of the high price of real estate. This is the fundamental trouble and the result is that there cannot be enough light or ventilation. I am becoming more and more convinced that nothing is more necessary for health than sunlight; it is a great purifier of bad air. According to my observations, sunlight, fresh air, and diet are the most important factors in hygiene, cleanliness being of less importance. Give dirty people sunlight and fresh air and they will usually keep well. I can confirm what has been said in regard to the ill-effects of over-heating houses: I have had to regulate this in a number of instances. Moreover furnaces and steam-pipes make the air peculiarly irritating on account of its dryness. The same degree of heat from an open fire-place does not have this effect and is not so injurious.

DR. WHITE: A paper of this character is of great practical value. The two great menaces to health in the present construction of houses are associated with the plumbing and heating. The former has been somewhat improved of late years, but the latter leaves much to be desired. Our hot-air furnaces are faulty. The influx of cold air is taken from the outer air and passed through a long wooden box which is never cleaned. This should be so constructed as to permit of the removal of dust charged with animal matter which accumulates there. Another source of danger is the water-tank which supplies moisture to the hot air. This is filled in many cases automatically and never cleaned, the result being that there is an accumulated deposit of mud and filth at the bottom from which a poisoned vapor is sent through the house. This may be the cause of what we call "grip" which prevails in the autumn months, when furnaces are first put in use, and continues more or less until warm weather is established. This also doubtless accounts for much of our New York malaria. The author has covered the ground very fully in regard to the improvements which should be made in our dwellings and most if not all of his recommendations find in me cordial endorsement.

DR. J. H. FRUITNIGHT: The hygiene of habitations has a great deal to do with the health and happiness of the people. Sunlight is essential but we are robbed of it by tall buildings. Our houses are imperfectly ventilated, especially the halls which, as a rule, are not ventilated at all. It may not be out of place to refer to the most brilliant and striking example of the benefit of sanitary control which is afforded by Dr. Wood in his report on the present sanitary condition of Santiago. As may be imagined, the conditions of living were very primitive there. Cess-pools are used and when these are cleaned, the contents are carried through the dwellings. By the enforcement of sanitary measures, the death-rate of the population fell from nearly 100 per day in the early part of August, 1898, to 30 or 40 a week in January, 1899, and in the middle of February, 1899, there was only 1 death in a period of nine days.

DR. ROBERT A. MURRAY: In regard to faulty plumbing, a great deal of this is due to the fact that not one-tenth of householders understand *why* things should be done in a certain way. The open-plumbing of to-day is a great improvement over the old method. The mortality in the upper part of this city is 4 or 6 per 1000, and very much higher than this in the crowded tenement-house districts where it is 26 per 1000. This is higher than the death-rate of London, Glasgow, or Birmingham, and is probably due to the fact that we do not control the occupants of our tenement houses, consequently they disregard cleanliness and other sanitary regulations. Our apartment-house are also conducive to ill health, for the reason that it is very difficult to properly ventilate them; they are usually overheated. All the rooms being on one floor it is impossible to ventilate one room without ventilating the others, consequently fresh air is dispensed with. In the ideal house, the sleeping apartments should be far removed from those occupied during the day—better on another floor. I am convinced that the mortality in hospitals would be lower if it were possible to remove the patients and thoroughly ventilate the wards; so that wards could be used in rotation.

DR. J. LEE MORRILL: Infectious gases may enter a house and cause disease. In a case which came under my observation the patient, a little boy, developed fever of a remittent type with persistent vomiting. A diagnosis of acute tubercular meningitis had previously been made by a prominent physician who is now dead. As the illness seemed to me to be of malarial origin I advised the administration of quinin. This was retained and the boy soon recovered. At my suggestion, the house was searched for defects in plumbing and it was found that the cement which surrounded the sewer-pipe in the cellar-wall had crumbled away, leaving a space through which foul-air from a break in the sewer some seventy-five or a hundred feet away was admitted to the cellar and thence to the rest of the house. This opening was closed and the boy has since remained well.

DR. LEO, in closing: As to the statement made in the paper in regard to tuberculosis being caused by damp cellars, I can only refer you to the authority I quoted—the Ninth Report of the Medical Officer of the Privy Council of Great Britain, Sir George Buchanan, in which he states they carefully investigated the causes of tuberculosis, and that the disease may be produced by moisture under dwellings. Such was their conclusion then.

As regards plumbing, I am pleased to be able to affirm that good American plumbing is the best to be found in

any part of the world. I have reached this conclusion after investigations made in the large Continental cities. My friend, the late Colonel Waring, was of the same opinion. The sewerage of New York, however, is bad. Most of the sewers were built during the days of the Tweed ring by contractors who grew rich but did the work badly. In some places the pipes run up hill, whereas there should be a slight descent or fall toward the outlet. The result is that only the fluid on top runs out while the solid part of the sewage remains in the pipe. It would cost millions of dollars to sewer New York properly.

Meeting of May 17, 1899.

FRACTURE OF THE NECK OF THE FEMUR; OSTEOMA OF THE FEMUR; GROWTH OF THE HUMERUS.

DR. JOHN F. ERDMANN: I have here some skiagraphs which are of exceptional interest. The first was taken in the case of a child, eleven years of age, who had sustained an injury of the right hip by falling on the pavement during a snow-storm. After this fall she was unable to walk. She was put to bed and seen by a physician who said that she had merely strained herself. I saw her about twelve weeks after the injury. There was then a large exostosis of the right hip and it was a question whether the case were one of fracture of the neck of the femur or a diastasis. As you see, the skiagraph shows very plainly that fracture of the neck had taken place. There is now thirty or forty degrees of flexion, with very fair rotation, and about three-quarters of an inch shortening.

The second skiagraph shows a so-called ossifying-hematoma or osteoma of the right femur. A peculiar feature of the case is that the patient, a physician twenty-nine years of age, has a number of these exostoses on various parts of the body. The tumor of the femur was first noticed about twelve years ago a little above the knee joint. There was a slipping and popping of the muscle as it slipped over the growth which was then about half an inch long and is now about one and a half inches long and one inch wide. I also found exostoses on the bones of the right forearm, one on the left ulna, and one on the left femur. The skiagraph only shows the one on the right femur. The growth is on the outer side of the thigh, although they commonly appear on the inner side and are known as "riders' bone."

The third skiagraph shows a bony growth of the right humerus in a man aged twenty-nine years. It was first noticed when he was twelve years old and grew very little during the succeeding ten years, but during the last three years it has increased rapidly in size. The tumor is at the upper part of the humerus and now measures nineteen inches in circumference, five inches in transverse diameter, and seven inches in length. It has the external appearance of a malignant growth, the veins are enlarged, but there is no involvement of the skin or muscular tissue. From the history I should say that it was originally an osteochondroma or ossifying hematoma which perhaps is now taking on a malignant change. The patient consulted me because of the pressure on the chest in the axillary line caused by the growth. The function of the arm is not interfered with.

In the second case the growth is also of long standing, and the question arises as to the possibility of there being a malignant outcome. It is generally believed nowadays that no matter how benign a tumor may be, it is best to remove it; yet, when I showed this case to the Surgical Society with a view to raising the question as to the advisability of operating, the concensus of opinion was to leave it alone so long as the growth did not give pain or interfere with function.

DR. HENRY LING TAYLOR: I am much interested in cases of fracture of the neck of the femur in young people, and recently showed two boys before the Orthopedic Section of the Academy, in whom the fracture resulted from slight injury in the sixteenth year. Since then I have seen what I at first believed to be another case occurring in a boy of sixteen years, but am now of the opinion that it is one of coxa vara associated with traumatism. It may be extremely difficult to differentiate between the two. As Dr. Whitman, who has done excellent work in this direction, has pointed out fracture of the neck of the femur is practically a traumatic coxa vara. Dr. Whitman has ascertained that the shortening in these cases almost invariably increases as time goes on. This is due to the fact that union takes place at a lower angle than is normal and the result is that the neck of the femur is not able to bear the weight of the body and yields under it. A shortening of from half an inch to an inch may in the course of several years increase to two inches or more with a corresponding aggravation of the limp. This is a very practical point. The cases should be followed up and watched and treated with a hip-splint like cases of non-traumatic coxa vara. Dr. Whitman is also of the opinion that these are cases of true fracture and that diastasis of the femur is very rare. The skiagraph shown this evening confirms all the points made by Dr. Whitman, except, of course, the increasing shortening which will no doubt be noted later on.

The third skiagraph reminds me strongly of a case seen a few weeks ago at the Hospital for Ruptured and Crippled occurring in a boy eleven or twelve years of age. The tumor was in the femur, just below the neck. It was of the size of an orange and had existed for about a year without causing any discomfort. Unfortunately the case passed from under observation.

CASE OF LUPUS TREATED WITH SCHWEINFURTH'S SERUM.

DR. ROBERT H. GREENE: I have under observation at the City Hospital a young man suffering from lupus. The disease is extensive, covering nearly all the body, has existed for years, and is steadily increasing. Various methods of treatment have been employed without benefit. Acting upon the suggestion of Dr. Fordyce, I procured from Washington a bottle of the new tubercular serum. It is a horse-serum made by Dr. Schweinfurth, the bacteriologist of the Department of Agriculture and differs from Koch's tuberculin which is an extract. This serum is manufactured for tuberculosis in

the same way the antitoxic diphtheria serum is prepared. I began giving the patient injections of 2 minims of the serum and gradually increased the amount until now he is getting 20 minims daily. He has had no other treatment and no special diet, but strange to relate the disease is getting better. The patches show a tendency to heal from the center toward the periphery. In this respect the effect is different from that which follows the use of tuberculin in similar cases, in which case a red zone is formed about the patch and the healing is from the periphery toward the center, the use of tuberculin, in other words, being attended with a local reaction as well as a general one as shown by the chills, fever, etc. Accompanying its use with the antitoxin tubercular serum in the quantities above described there is apparently no reaction either local or general.

CHANCRE OF THE LIP IN A YOUNG CHILD.

Dr. L. Duncan Bulkley: An interesting case came to me the other day from Dr. E. L. Cocks in which there were external manifestations of syphilis in a child seven months old. The initial lesion was a chancre of the lip which was apparently traced to the infected nipple of a nursing-bottle. Upon the trunk was a fully developed macular syphiloderm which had appeared three or four days previous. The disease could hardly have been congenital, for the child was well nourished and magnificently developed. The mother was healthy. The chancre was half an inch in diameter, not very sharply defined nor very characteristic; it exuded moisture. The glands under the jaw were enlarged. The child being bottle-fed the theory is that he was infected by some one who tasted the contents of the bottle to see if the food was of the proper temperature—a most reprehensible habit. I have never before seen acquired syphilis in a child so young, although plenty are reported in the literature.

Dr. Robert A. Murray then read the paper of the evening, entitled

DYSMENORRHEA.

The author said in part: Dysmenorrhea, or painful menstruation, through its regular recurrence and dire effects in depreciating the vitality, limiting the usefulness, and destroying the happiness of women, is a subject demanding constant study. Frequently looked upon as a necessary consequence of the menstrual function, palliative measures in the shape of narcotics, stimulants (particularly alcoholics) are administered to the young as well as the adult female until habits of life are formed which often result in wrecked lives and fearful domestic tragedies.

Clinically the condition may be discussed under the headings of (1) congestive or inflammatory; (2) membranous; (3) obstructive or mechanical, and (4) neuralgic, and each variety may be complicated by acute or chronic disease of the tubes, ovaries, or uterus. Ovarian dysmenorrhea, as usually described, is really ovarian or tubal disease complicating one of the foregoing forms.

Theoretically the treatment of all forms of dysmenorrhea may be divided into that which is directed toward easing the pain and causing the flow to be free and which usually relieves all the symptoms, and that which is instituted between the periods to remove the cause. Congestion of the uterus may be relieved by the use of heat applied as a foot-bath, the feet being immersed for twenty minutes in warm water the temperature of which is gradually increased. The hot sitz-bath is of value, as are also hot fomentations to the abdomen, with or without rubefacients, such as turpentine or spirits of camphor. Dry heat in the form of the hot water-bag may also be applied to the lower lumbar region and the inner surface of the thighs. Warm drinks may be administered but the use of alcohol in any form is to be deprecated. In cases in which arterial tension is high, aconite, pulsatilla, and veratrum viride, in small doses frequently repeated, are very efficacious. Apiol in capsules and salicylate of soda, if a rheumatic diathesis exists, are often effective. Most of the coal-tar products relieve the pain, particularly if they be combined with codein in half-grain doses. Morphin and other preparations of opium are occasionally necessary but should be employed most cautiously. In full-blooded women the intense uterine congestion may produce a marked disturbance of the circulation. In such cases puncturing of the cervix will give relief and bring on the flow. In a few cases in which I have found the patient delirious with pain and in one in which there was marked congestion of the brain and the patient was in a comatose condition, great relief followed a free bleeding from the arm.

In cases of obstructive and membranous dysmenorrhea, after tonic and hygienic treatment have been employed without avail, a local examination should be made to ascertain the cause of the condition. Here I would most earnestly condemn the indiscriminate employment of vaginal examination in young girls without having previously exhausted all hygienic and medicinal means of relieving their dysmenorrhea. Before resorting to the vaginal examination, rectal touch should be employed to determine the size and position of the uterus and appendages. To the educated hand this method of examination is as satisfactory as that made by the vaginal route. If an operation seems indicated this and the preliminary vaginal examination should be done under ether to avoid shocking the susceptibilities of a young girl. Stenosis of the cervix, particularly at the internal os, and endometritis are among the most common causes of this form of dysmenorrhea. Dr. Sims advised and for a time practised splitting the cervix by bilateral incisions extending up to and including the internal os for the relief of this condition, but the operation is somewhat dangerous, frequently inefficient, and leaves the patient with a lacerated cervix. The introduction of graduated sounds, followed by intrauterine applications of iodin, carbolic acid, nitrate of silver, and other caustics, has also been employed but the method is not only ineffectual but is attended by the danger of infection and of setting up pelvic peritonitis. Electricity has also been used and one cannot deny that the cervix uteri can be dilated almost painlessly by means of graduated sounds attached to the negative pole with the positive pole upon the abdomen and the application

of the galvanic current—from five to fifteen milliamperes—for five minutes at frequently repeated sittings. The faradic current will also relieve the symptoms. My experience with electricity, however, has been disappointing because the results obtained have not been permanent, and it is my belief that this is due to the caustic action of the zinc pole upon the endometrium. The best method of treating these patients is by over-distention of the cervix by means of a manual dilator, a thorough curettage, and an application of carbolic acid. The operation should be done under anesthesia and should be preceded for a short time by the employment of boroglycerid tampons. The curettage should be preceded and followed by an intra-uterine douche of hot sterile water. If proper precautions are taken the dangers are *nil*

The neuralgic variety of dysmenorrhea is difficult to treat. General treatment should be instituted; but little else can be done. The patients seem abnormally sensitive to pain and to the worries and cares of life, and slight shocks to their emotional nature cause great aberrations in their vital functions. Locally little is to be made out but a sensitive or prolapsed ovary or a slightly atrophied or congested uterus. But even after these abnormalities have been corrected, the patients still complain. It seems to me that what such a patient most needs is not rest but a healthful occupation which would divert her mind. It is important that this condition be recognized lest the physician be persuaded to prescribe anodynes to such an extent that a habit is formed.

DR. SIMON BARUCH: The treatment mentioned by the author is the same which I have pursued for many years and, I am sorry to say, with very poor results. I am very pessimistic in regard to the cure of dysmenorrhea. There is only one class of cases which is amenable to treatment by tonics, *viz.*, that which is composed of overworked girls who have damaged their cortical cells by mental or physical strain. I am not a believer in the operative treatment of dysmenorrhea. Of the cases in which operation has been done in my clientele, I do not think I have ever seen one patient cured. I myself have dilated the cervix and have had my gynecological friends do it, and once have been obliged to consent to removal of the ovaries to relieve pain which was intolerable, but the results have been unsatisfactory. In the case in which oophorectomy was performed, while there is, of course, no more dysmenorrhea, the patient is still a neurotic wreck in spite of electricity, hydrotherapy, change of scene, etc.

I am heartily in accord with the author in what he says about the abuse of the vaginal examination in young unmarried women. For a great many years I was physician to a large institution in which many female teachers were employed. These poor girls feeling a little hesitancy about applying to me for relief from their ills, in some instances consulted our female colleagues who do not seem to have the same repugnance which I have to making a local examination in young girls, and after being treated with tampons, etc., they would eventually come to me for treatment of their anemic condition. In these cases tonic treatment was followed by the most beneficial results.

DR. ROBERT NEWMAN: Among the causes of dysmenorrhea the author has mentioned surf-bathing. In my experience I have found that bathing in salt water during menstruation does no harm, but that bathing in fresh water in many cases causes suppression of menstruation. I am glad to hear the author make favorable mention of electricity in the treatment of dysmenorrhea. I know of cases in which it has done wonders. In cases in which the uterus was not properly developed, the growth of the organ has been stimulated by galvanism and a common cause of dysmenorrhea removed. Again, neuralgic ovaritis, another cause of dysmenorrhea, is relieved by an external and internal combination of galvanism, and in some cases the high tension faradic current has been known to cure dysmenorrhea, acting as an analgesic.

DR. J. BLAKE WHITE: I can corroborate what the author has said in regard to dysmenorrhea being a symptom and the necessity of seeking for its cause. There is hardly a subject in medicine which calls for so much thoughtful sympathy for the patient and so much palliative treatment with judgment for its relief as dysmenorrhea. I have seen cases in which benefit followed the administration of the coal-tar preparations; others in which these drugs alone would not give relief, but would act well when combined with belladonna, camphor, and hyoscyamus. In some troublesome cases in which other remedies failed relief followed the administration of a warm enema, and where there is a tendency to constipation I have advised, with decided beneficial results, the administration of a full warm enema on the approach of menstruation and for the two or three succeeding days of its continuance.

Not infrequently, as we all know, a dysmenorrhea results solely from anemia and is promptly relieved by judicious ferruginous medication. I have found that some of these patients are more speedily and satisfactorily relieved from subsequent attacks of dysmenorrhea by different preparations of iron—sometimes combined with arsenic. Of course these cases are not due to local conditions which require other and more radical treatment.

DR. A. M. JACOBUS: It has always seemed to me that chronic dysmenorrhea, like headache, is difficult to discuss, and still more difficult to treat. According to my experience the condition is usually met with in young women with infantile uteri. They commit some indiscretion such as cycling, horseback-riding, sea-bathing, dancing, or get their feet wet during menstruation, and, as a result, get endometritis, pelvic peritonitis, ovaritis, etc. Nothing short of some operative procedure, such as divulsion and uterine packing, will relieve these cases and it should be performed, if possible, before the appendages become involved. If these patients do not marry and bear children, they often become neurotic and hysterical and suffer to the end of their menstrual life. Another form of dysmenorrhea results from a chronic endometritis following a miscarriage, especially when the latter has been induced. Sepsis after childbirth is also a cause of chronic dysmenorrhea. I have seen cases in which dilatation did good and others in which it had no effect. I

would not advise removal of the ovaries for dysmenorrhea any more than I would for insanity. Gynecologists know that most patients who suffer from dysmenorrhea also suffer from chronic constipation and chronic dyspepsia. Dr. Barker frequently said that constipation causes most of the trouble from which women suffer. In such cases, after treating the constipation and dyspepsia, I have obtained good results from the use of bromids, in 10- or 15-grain doses, three or four times a day before and during menstruation. The fluid extract of hydrastis acts well if the patient is inclined to flow freely, as do also the viburnum preparations. The high tension bipolar faradic current, given *per vaginam* two or three times each week, before and after the menses, is also a valuable remedy. In some cases tampons saturated with the commonly used boroglycerid mixture will give relief. If there is some displacement of the uterus which cannot be rectified by operation owing to the objection of the patient a pessary may be of benefit. Pessaries should not be used, however, if the uterus is bound down by adhesions or if the patient will permit surgical interference. Constitutional treatment should be employed as indicated.

In regard to the vaginal examination in young girls, I do not not advise it unless there is a very good reason. It is rarely necessary, for we can determine all we want to know by rectal touch.

Dr S. H. Dessau: As a general practitioner, I have met with these cases of dysmenorrhea and have my own views upon the subject. Gynecologists, as a rule, are too apt to consider dysmenorrhea as due to some cause which can only be removed by operation. This was impressed upon me recently by the case of a young schoolteacher. She was a delicate, neurotic subject and, as I found out later, a sufferer from chronic intestinal indigestion. She had dysmenorrhea for a long time and finally consulted a gynecologist who is connected with the Woman's Hospital who told her, after having made a vaginal examination, that an operation was imperative. She and her family were much shocked, and she was brought to me by her mother. I examined the young woman, since this had already been done, and found nothing abnormal and no indication for operation. I soon convinced myself that the girl was suffering from chlorosis and nothing more. I treated her for this condition, and in three months she had no more dysmenorrhea. This was two years ago, and she has had no return of the pain.

I regret that the author did not dwell upon the points of differential diagnosis. Some years ago I saw a very instructive case. The patient was a young married woman who for several months had suffered intense pain during menstruation. She was seen by a prominent gynecologist, now dead, who advised Battey's operation. She declined this, however, and passed through several other painful periods during which I saw her. One day she came to me with a phosphatic calculus which she had passed and after that she never had pain during menstruation. Strange to say, the patient had always referred the pain to the region of the right ovary.

Dr. Bulkley: I know dysmenorrhea only as a symptom, for I do not pretend to have any knowledge of what goes on inside of my patients, yet my experience in the treatment of this symptom has been so good that I fear no one will believe me. The discussion has gradually led up to what I am about to say, for Dr. Jacobus has alluded to constipation and Dr. Dessau to a phosphatic condition. I wish to speak of the condition of the urine. Some three or four years ago the late Dr. Etheridge of Chicago read a paper upon deficient excretion of the kidneys in women suffering from the diseases peculiar to them, showing that a sympathy exists between the kidneys and the uterus and appendages. In the following year I read a paper on deficient excretion and advised an alkaline treatment for these patients. Some years ago a young girl came to me with a bad acne of the face. She also suffered from dysmenorrhea, for which she had been treated, but without benefit. She was in a miserable condition, being so weak that she could not walk upstairs to my office. I placed her upon the following:

℞ Potassii acetatis . . . . ℥ i
Tinct. nucis vomicæ . . . ♏ ij
Ext. rumicis rad. fld. . . . ad. ℥ iv.

M. Sig. Teaspoonful in ⅓ tumbler of water half an hour before meals, beginning ten days before the expected period.

Before six months had passed she was not only able to walk upstairs, but could walk a mile from her house to my office and she had no more dysmenorrhea.

Again, the wife of a prominent physician in Brooklyn came to me for some skin affection. Among other things she spoke of her dysmenorrhea, which was so severe that the advisability of having ovariotomy performed had been about decided upon. I put her upon the alkaline treatment and employed an old-fashioned remedy which had a marvelous effect—a small blister, one-inch square, applied over the ovary, one week before and during the period—and in six months she was well.

Of the coal-tar products I have only found one of any service and that is antefebrin, in 5-grain doses at intervals of one hour when pain threatens, and later every two hours. It should be taken in hot water with a little whisky.

Dr. J. Riddle Goffe: I do not think that Dr. Bulkley's opinion in regard to the treatment of dysmenorrhea differs very much from that of most gynecologists. The treatment he employs is right in line with that which I believe is being used by all of us, except, perhaps, those extreme gynecologists who see nothing but what they think indicates operation. It is very largely a matter of hygienic management of the case and general treatment directed toward improving the nutrition and metabolism of the body.

I take a much more sanguine view of these cases than that which has been implied by some of the speakers and for this reason I do not hesitate to encourage patients to submit to come under treatment. The cases can be divided into two classes: (*a*) women who are married and have borne children and who have actual disease in the

pelvis, and (*b*) young women and girls. The former can and should be cured by removing the pathological condition in the pelvis which causes the dysmenorrhea. The latter are neurotic and anemic, as a rule, and what they need most is to have their digestion and assimilation put in order. Hygiene plays an important part here. I do not give drugs, except tonics, nor treat the patient as if the condition were a local one, but regulate the patient's life. The patients are usually women exhausted by social requirements, by study, or by hard work. The uterus is infantile because physical or mental overwork has prevented its development. There seems to be a strange law that if a woman passes through the period of adolescence without vitality to develop these organs sufficiently to perform their functions, the condition becomes chronic and requires an unusual degree of stimulation to relieve it. I order these patients to ride a horse or a bicycle, to row, and to do anything which will develop their general vitality and give them good blood. I am also a great believer in hot baths. I tell my patients to take a hot bath daily, as hot as they can bear it, and then spray themselves with cold water afterward. This makes the skin active. These baths should be kept up during menstruation. There seems to be a tradition that it is not safe for a woman to bathe while she is menstruating, but there is absolutely no reason why she should not; on the contrary, there is every reason why she should bathe, for a woman never needs a bath more than she does at that time. Surf-bathing, however, should not be indulged in. I also believe with Dr. Baruch that bathing stimulates the nerve-centers. If there is much pain during menstruation I make the patient keep very quiet. This is the plan upon which I treat these cases and I find that it works well. I have relieved many cases of dysmenorrhea by simply employing hygienic treatment. Sometimes, of course, I am not successful, in which case I insist upon a local examination and usually find some local cause for the painful menstruation. I do not believe in "obstructive" dysmenorrhea nor that the pain is due to an anteflexed and retroverted uterus; the latter is simply an undeveloped uterus.

DR. MURRAY, in closing: I have but little to add. I am fully aware of the deficiencies of the paper, which was not intended to be exhaustive, but merely suggestive. It is my belief that in my cases dysmenorrhea is due to deficient oxygenation. This explains why young girls who suffer from painful menstruation improve at once and with no treatment when they are taken out of school.

In regard to the blister over the ovary, this is a very old practice which was carried out with the idea that an ovaritis existed. It possesses, however, two advantages, *viz.*, it controls the circulation and keeps the patient quiet—the latter a most important point. It has the same effect in pleurisy.

I am convinced that surf-bathing is the cause of dysmenorrhea, and have known pelvic peritonitis to follow a sea-bath during menstruation. I am in favor of a warm douche, for the sake of cleanliness, during the period. Some women during the last day or two have as foul a discharge as that which accompanies sapremia after labor.

THERAPEUTIC HINTS.

For Non-Tubercular Bronchitis.—

℞	Potassii citratis	ʒ iv
	Suc. limonis	ʒ i
	Syr. ipecacuanhæ	ʒ iv
	Syr. simplicis q.s.ad.	ʒ iv.

M. Sig. One teaspoonful every two hours.—*Wood.*

A Liquid Vesicatory.—Fold a bit of gauze to the desired size, wet it with the solution given below and apply to the skin for ten or fifteen minutes. This is a convenient means of producing rapid vesication.

℞	Aq. ammoniæ concentrat.	Part i
	Ol. camphorat.	Parts ii.

M. Sig. External use.—*Gnéspin.*

For Aphthæ—It is stated by DE MIA that from observation of the results obtained by the use of a number of different applications in this disease he concludes nitrate of silver to be the most efficacious. If the aphthous spots be pencilled twice a day with a six-per-cent. solution a cure may be expected in four or five days.

An Antiseptic Powder.—The following combination of drugs is recommended by PICK:

℞	Hydrarg. chlor. corros.	gr. ⅓
	Ac. borici	ʒ i
	Ac. tannici	gr. x
	Sacchari lactis	ʒ i–ʒ iiss.

M. Sig. External use.

For Painful Dyspepsia. — The following preparation is prescribed either for simple painful dyspepsia or for that due to carcinoma:

℞	Cort. condurango pulv.	ʒ iv
	Aquæ	℥ x.

Macerate for twelve hours, then evaporate the decoction down to 5 ounces. Of this the dose is a tablespoonful three times a day.—*Friedrich.*

Or this:

℞	Cort. condurango pulv.	ʒ iv
	Ac. hydrochlorici	gtt. xv
	Syr. cort. aurant. amar.	℥ v.

M. Sig. One tablespoonful every two hours.—*Krauss.*

For Facial Neuralgia —

℞	Butylchloral. hydrat. } aa	ʒ iiss
	Spiritus }	
	Glycerini	ʒ v
	Aq. dest.	℥ iv.

M. Sig. One or two teaspoonfuls a day.—*Boucquillon-Simonsin.*

For Anorexia in Dyspepsia.—

℞	Sodii arsenitis	gr. i–ii
	Aq. dest.	℥ viii.

M. Sig. Two or three teaspoonfuls a day.—*Dubove* and *Rémand.*

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ORIGINAL ARTICLES.

THE BACILLUS ICTEROIDES AS THE CAUSE OF YELLOW FEVER—A REPLY TO PROFESSOR SANARELLI.

By GEORGE M. STERNBERG, M.D.,
OF WASHINGTON, D. C.;
SURGEON-GENERAL, UNITED STATES ARMY.

I HAVE no time or inclination for controversial writing, but desire to state my position with reference to Sanarelli's bacillus as briefly as possible. In my paper published in the MEDICAL NEWS, November 13, 1897, I say:

If my bacillus *x* and the bacillus icteroides of Sanarelli are proved to be identical and this bacillus is demonstrated to be the cause of yellow fever, Sanarelli will deserve full credit for the demonstration, and I shall not be disposed to detract in the least from the praise due him for the success achieved as a result of his investigations. If, as he claims, he has obtained the final proof that this is the yellow-fever germ by producing the disease in man (five cases), as a result of the subcutaneous or intravenous injection of filtered cultures, I think we must accept these results as demonstrating the specific character of the bacillus in question. But without this final proof the demonstration would not be satisfactory, notwithstanding the pathogenic virulence of the bacillus when injected into several species of the lower animals. If it were constantly found in the blood and tissues of yellow-fever cadavers there would be little reason to doubt its specific character. But both my researches and those of Sanarelli show that, notwithstanding the most painstaking investigations, this bacillus has not been found in a considerable proportion of the typical fatal cases of yellow fever examined. . . .

In the series of cases studied by me secondary infections were extremely rare. The colon bacillus was found in a considerable number of cases, but usually in comparatively small numbers, and there is no good reason for believing that the fatal result depended upon its presence. But for the fact that in the second case studied by Sanarelli, his bacillus was present in considerable numbers in blood extracted from the finger of the patient the evening before his death, and also, after death, in the blood, spleen, liver, and other organs, it is quite probable that his attention would not have been attracted to this particular bacillus. In this regard this case is unique, both in the series of cases investigated by Sanarelli and in those studied by me; and if this is indeed the bacillus of yellow fever, it is evident that it is usually present in the blood or tissues of yellow-fever patients in very small numbers, or not at all.

In my latest publication (*Centralblatt für Bakteriologie*, May 13, 1899), I say:

The experiments which have been made under my direction in the laboratory of the Army Medical Museum in this city (Washington) have convinced me that the bacillus of Sanarelli and my bacillus *x* have permanent characters which distinguish one from the other and consequently that they are not varieties of a single pathogenic species. I am, therefore, obliged to admit that Sanarelli's researches give no support to the supposition, which for a time seemed to me to have a certain degree of probability, that my bacillus *x* is the specific cause of yellow fever. On the other hand, my researches give no support to Sanarelli's claim. My bacillus *x* was obtained by me, in small numbers, from about one-half of the yellow-fever cadavers examined by me in Havana. Sanarelli, using the same methods, found his bacillus in about the same proportion of cases and also, with one exception, in comparatively small numbers. Both bacilli are pathogenic for rabbits and guinea-pigs—Sanarelli's bacillus more so than my bacillus *x*. But experiments upon these animals fail to give any satisfactory evidence that either bacillus is the specific cause of yellow fever. Both bacilli when injected into the circulation of dogs (5 c.c.) produce vomiting, fever, a hemorrhagic gastro-enteritis with bloody discharges from the bowels, albuminous urine, necrotic changes in the liver, collapse, and death in a certain proportion of the cases.

With reference to Sanarelli's experiments upon man, I would say that the toxemia resulting from the injection of filtered cultures of his bacillus may or may not be identical with yellow fever in man. Further experiments would be necessary to determine this, and especially control experiments with the toxic products of other bacilli of the typhoid and colon groups.

In his first published paper Sanarelli says:

Sternberg thinks that there is probably a localized infection having its seat in the stomach.

In his recent paper in the MEDICAL NEWS, he says:

Primarily, Dr. Sternberg clung firmly to the idea that the seat of the specific virus of the disease was in the intestine. He seemed to have been of the opinion so commonly held by writers at that time, that a certain pathogenic analogy existed between yellow fever and Asiatic cholera, the discovery of whose germinal cause had been such a triumph only a short time before. The symptoms and intestinal lesions which are observed in the two diseases are certainly sufficient to impose such an opinion on the observer, if he looks no further.

These statements are entirely erroneous, and were

disposed of in my paper in the MEDICAL NEWS above referred to, in which I say:

This is a mistake. I have advanced the hypothesis that the germ of yellow fever may perhaps be located in the alimentary canal, as is the case in cholera, and that the symptoms result from the absorption of a very potent toxin produced by it. But this is only a suggestion, and I know of no evidence indicating that there is a localized infection of the stomach. I have carefully studied many stained sections of the walls of the stomach, and have never found any evidence of a localized infectious process, although in a certain proportion of the cases there is evidence of inflammation, as shown by the presence of an unusual number of leucocytes in the submucous coat.

The small intestine commonly contains more or less black matter, either fluid and resembling that found in the stomach, or mixed with mucus and smeared over the mucous coating, especially of the ileum. This, no doubt, comes partly from the stomach, but in other cases is due to passive hemorrhage from the mucous membrane of the intestine itself. This membrane presents arborescent patches of congestion, or portions of the canal may be uniformly red from hyperemia of the mucous coat; the color varies from a pale-red to a reddish-brown, and is usually more marked in the lower portion of the ileum than elsewhere. The large intestine occasionally presents similar arborescent patches of congestion, but it usually has a normal appearance. Finally, we may say that the attention of pathologists has heretofore been so largely taken up with the pathologic histology of the organs which present the most notable changes—liver and kidney—that the histology of the alimentary canal has been somewhat neglected, and further researches in this direction are desirable upon material obtained at the earliest possible moment after death.

It was not until after my failure to find any specific micro organisms in the blood or tissues that I devoted special attention to the alimentary canal. In my original report (1890) I say:

My first five autopsies, made in 1888, gave a negative result. In Case VI., autopsy four hours after death, colonies of two different kinds were obtained in cultures from the blood, liver, and kidney. One of these was my bacillus *a* (*bacterium coli commune*).

Again, in Cases VII. and VIII., the result was negative; but in Case IX., in which the autopsy was made five hours after death, numerous colonies of bacillus *a* developed in my cultures from the blood, liver, and kidney. The next case in which I obtained micro-organisms from the blood was in No. XV., Havana, 1889. In this case a few colonies of a different bacillus were found.

In Case XVIII. I again obtained a few colonies of bacillus *a*.

Case XIX. gave a negative result, and in subsequent autopsies I did not collect blood from the heart, inasmuch as the material obtained from the liver always contained a considerable quantity of blood and would show the presence of micro-organisms if they were to be found in the general circulation.

A summary of these results shows that I have obtained micro organisms in my aerobic cultures as follows: In blood from the heart, four times in nineteen cases; in the liver or kidney or both, thirteen times in forty-three cases.

It will be noticed that the micro-organisms most frequently encountered were non-liquefying bacilli, my bacillus *a* and bacillus *x*.

We are, therefore, able to assert in the most positive manner that the blood and tissues of yellow-fever cadavers do not contain aerobic liquefying organisms, unless by rare exception, and can definitely exclude the micrococcus of Freire and the tetragenus of Finlay from consideration as possible agents in the etiology of this disease, as both of these grow readily in the culture-medium used in these investigations and both liquefy gelatin.

The non-liquefying bacilli found in a certain proportion of the cases are not in sufficient numbers or sufficiently constant to give support to the view that they are the specific cause of the disease, and the fact that they are not found in a considerable number of typical cases is sufficient reason for excluding them as being directly concerned in its etiology by reason of their presence in the blood and tissues. But we may suppose that they have their proper habitat in the alimentary canal and that the morbid phenomena are due to a toxic ptomain, produced in this situation. Under this hypothesis the occasional presence of these bacilli in the tissues is to be regarded as accidental and as resulting from the emigration, during the last hours of life or post-mortem, of micro-organisms from the intestine, and we have to ascertain whether one of the bacilli found most commonly in the tissues or any other micro-organism present in the alimentary canal is the specific agent we are in search of.

I may remark here that if Sanarelli's bacillus is the cause of yellow fever and is to be found in the blood it could not well be absent from the alimentary canal in fatal cases as these almost invariably show the presence of disorganized blood both in the stomach and in the intestine. But Sanarelli asserts that his bacillus is not found in the contents of the intestine. In my paper in the MEDICAL NEWS I say: "I think it would be very unfortunate if, upon the strength of Sanarelli's negative results, sanitarians should neglect to disinfect the excreta of yellow-fever patients."

In support of his mistaken inference that I have looked upon the intestinal tract as the seat of the infection, Sanarelli says:

That Dr. Sternberg held this opinion is clear, since in his report to the United States Government[1] in his official capacity he submits as one of his conclusions a suggestion for the treatment of the disease by disinfection of the intestinal tract, an alkaline solution of bichlorid of mercury of 0.02 per cent. being employed for this purpose.

[1] "Report on the Etiology and Prevention of Yellow Fever," p. 85, Washington, 1890.

This erroneous prejudice as to the pathogenetic mechanism of the disease was sufficient without doubt to influence the whole course of his researches. For it is evident that Dr. Sternberg yielded to the preconceived notion at that time so generally accepted, that it would be possible to isolate from the contents of the intestinal tract a microbic form that would be constant for the disease.

Sanarelli is not the only one who has made this mistaken inference, which, however, I have repeatedly corrected. In my original report I say:

My principal object in suggesting the formula was to test a decidedly alkaline treatment from the outset of the attack, with a view to relieving the gastric distress and acid vomiting, which is a prominent feature in cases treated by the expectant method, and also to render the highly acid urine neutral or slightly alkaline, in the hope that the secretion would be more abundant and the tendency to suppression diminished. The treatment appears to meet these important indications; and, without in any sense being "specific" to save life by preventing those structural changes which give rise to passive hemorrhage from the stomach and suppression of urine—two symptoms which present themselves in a majority of the fatal cases.

Bichlorid of mercury in a comparatively small amount was added to the formula, not with the idea that it would to any extent destroy pathogenic micro-organisms in the intestine, but as an antiseptic, which might be useful in preventing fermentative changes in the stomach, which would, perhaps, be favored by the free administration of an alkali. The idea has also occurred to me that the specific germ may possibly find a suitable nidus in the acid secretions of the stomach, and in this case the administration of an antiseptic in combination with an alkali would be the most rational treatment. Still I have not given much weight to this idea.

Sanarelli reproaches me with not being willing to yield to the evidence in favor of the specific etiological rôle of his bacillus. I am not influenced in my scientific conservatism by any feelings of jealousy and shall be ready to do full honor to the discoverer when the discovery is definitely established. At present I cannot admit this for the following reasons:

First, Sanarelli's bacillus grows readily in the culture media employed by me in my researches, but in nineteen typical cases of yellow fever in which I introduced into such media blood from the heart of yellow-fever cadavers, this bacillus was not present, the cultures remaining sterile in fifteen. In three of the four cases in which a growth occurred I identified the bacillus found as bacillus coli communis (my bacillus *a*). I strongly suspect that some of those bacteriologists who claim to have found Sanarelli's bacillus have mistaken for it one of the varieties of the colon bacillus.

Second. In my experiments material from the interior of the liver and kidney, containing blood and crushed tissue elements from fresh cadavers, was added to culture media in which Sanarelli's bacillus readily grows, but I obtained a negative result (cultures remained sterile) in 30 out of 43 cases.

Third. Sanarelli's bacillus is fatal to guinea-pigs and rabbits when injected subcutaneously in very minute doses. In my experiments blood from the heart and crushed liver tissue from the fresh cadaver failed to kill eight out of ten guinea-pigs and seven out of eight rabbits experimented upon. I admit that the value of these experiments is impaired by the fact my laboratory facilities did not permit me to keep these animals under observation as long as was desirable.

Fourth. The experiments made by Drs. Reed and Carroll at the Army Medical Museum show that Sanarelli's serum in high dilutions (1–100,000) causes arrest of motion and typical agglomeration (Widal reaction) of the bacillus of hog cholera: also, that serum from an animal immunized against hog cholera, in high dilutions, causes arrest of motion and typical agglomeration of Sanarelli's bacillus; also, that cultures of Sanarelli's bacillus fed to pigs cause the death of these animals, and that the typical lesions of hog cholera are found in their intestine.

Fifth. The blood-serum of yellow-fever patients or of convalescents from this disease does not give a marked Widal reaction with Sanarelli's bacillus, although the blood of an animal immunized by the injection of cultures of this bacillus does give the specific reaction in high dilutions.

Sixth. So far as I am informed the results obtained in the use of Sanarelli's antitoxic serum do not give support to his claim to have discovered the specific germ of yellow fever.

In a letter dated January 20, 1899, my friend Dr. J. B. de Lacerda of Rio de Janeiro, says:

The serum of M. Sanarelli has failed here in Brazil. The results of the experiments which he made at San Paulo have not recommended the employment of this serum. It is neither preventive nor curative.

In a paper recently published in the *New Orleans Medical and Surgical Journal* Dr. P. E. Archinard reports a negative result from the use of Sanarelli's serum in ten cases. He says:

From the above cases, which limit our experience with the anti-amarylic serum of Sanarelli as a curative agent in the human being attacked with yellow fever, we are forced to conclude that this agent, in our hands, has shown no curative powers whatsoever, none of the important and dangerous symptoms of the disease having

been in any way mitigated or prevented by its administration.

Drs. Reed and Carroll are now preparing a report of their extended researches, which have been going on at the Army Medical Museum during the past two years. This report will be published in due time and will give full details as to the experimental evidence upon which they base their conclusion that Sanarelli's bacillus is a variety of the bacillus of hog cholera.

Finally, I would say it appears to me at the present time that, like the colon bacillus and bacillus *x*, the bacillus of Sanarelli is a pathogenic saprophyte which is present occasionally and accidentally in the blood and tissues of yellow-fever patients, and that its etiological relation to this disease has not been established. If, however, the results reported by Drs. Reed and Carroll can be shown to be based upon erroneous observations, I shall be ready to revise my opinion. Truth is mighty and no doubt in the end will prevail.

SOME FALLACIES IN THE MODERN TREATMENT OF NOSE AND THROAT DISEASES.[1]

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SPECIALISM seems to be the order of the day, and not unjustly so. It has its advantages and disadvantages. A man who confines his practice to a certain region of the body is certainly more familiar with pathologic changes in this region than the man who but rarely has such cases come under his observation. The man who treats 100 cases of typhoid fever in a year is certainly more capable of making a clear diagnosis and instituting appropriate treatment than one who sees five cases of the disease. In other words, the larger the experience of any man is in a special line of work the more expert he becomes in that work. But the tendency of the specialist is to become narrowed. Most of them will deny this allegation, nevertheless it is true. I feel that I may be permitted to speak freely since my own daily work for the last six years has been confined to a limited portion of the human anatomy, and I am better able to see my own mistakes and those of my colleagues in the same field of labor. A man can never become a successful specialist until he has become familiar with the whole human frame and the various diseases to which man is heir. This means, of course that no man is prepared to be a specialist who has not been in practice for a number of years, or at least served as interne in a large general hospital. A man, to be a successful practitioner or specialist, must be broad-minded, and broader still must be his knowledge. He who limits his study exclusively to one portion of the human anatomy can never be successful. One organ of the body is but a small portion of the whole, nor does it functionate as a distinct entity. Every part is dependent upon some other part and it requires the harmonious action of the whole for the well-being of each single member. Hence, the truly successful specialist is he who looks beyond the region where his work lies and takes into consideration the relationship existing between every portion of the human organism.

The specialism limited to the diseases of the eye, ear, nose, and throat is perhaps the most popular of all to the young graduate in medicine. He sees in it the El Dorado of long-hoped-for fortune. It is the specialty which, to him, requires the least amount of study and in which his mistakes will be the least noticeable. The question of life and death is not usually involved and, with the exception of the eye, the work is done in closed cavities obscured from the patient's scrutinizing gaze,and he is, therefore, to a great extent, shielded if he makes a mistaken diagnosis. This state of affairs brings specialism into disrepute, simply because this or that patient has one of this class of men who, perhaps, has not only failed to give relief, but has done actual harm. The great trouble to day is that men go into special work who have not properly qualified themselves to treat the whole human system. They see no further than the little organ to the treatment of which they expect to devote their life. They recognize no dependence of one pathologic condition upon some other diseased state in another portion of the body. In no specialty, I believe, are men found who are less worthy of the name "specialist" than those who set themselves up to treat eye, ear, nose, and throat diseases. It is true that the treatment of this class of diseases appears easy, and perhaps it is so, but the great question to be determined is, What is the appropriate treatment? It is one thing to treat and quite another to treat properly. The nose specialist who furnishes his office with a set of spraying apparatus, a nasal saw, a galvanocautery, and a wire-snare believes himself to be thoroughly prepared to treat all nasal diseases, and in his mind the idea is well fixed that there are no diseases of the nasal passages which cannot be cured by this outfit.

I wish now to discuss what I believe to be some of the fallacies in the treatment of nose and throat diseases. I mean by fallacies the false recognition of pathologic conditions and the wrong remedy for the condition when it is recognized.

On the Use of Sprays.—No throat and nose spe-

[1] Read at the annual meeting of the Georgia Medical Association, held at Macon, Ga., April 19–21, 1899.

cialist feels that he can be considered as such unless he has a condensed-air apparatus in his office, worked either by hand- or by water-power. Sprays in the nose, provided the substance sprayed is the correct medicament, are exceedingly valuable in a large number of cases, but their indiscriminate use in every case is often exceedingly injurious. Even in the few years of my practice I have found that there is such a thing as the "spray-habit," which is brought about largely by specialists who consider that it is necessary for patients to come to their office every day or every other day and be sprayed, until it not only becomes a habit with the patient, but a mercenary habit with the physician. A "spraying out" makes a patient feel better temporarily and in one in whom the nasal chambers have been closed the sensation of opening up is delightful, but unfortunately, there is a reaction and the opened condition does not last. There are two fallacies connected with the use of sprays, more especially in the nose, which I have found to exist with undue frequency among rhinologists. The first is that the pressure used for atomizing the liquids is frequently too strong and the result is that the mucous membrane is injured and, therefore, harm instead of benefit is the result. The mucous membrane in the nose is tender and sensitive, and for this reason the force of any spray should be well regulated. Some patients require a stronger spray than others; as, for instance, in atrophic rhinitis, in which condition irritation of the mucous membrane is considered by some as the rational therapy. But with this exception I know of none. In the second place it has become an almost universal habit to use, without proper discrimination, some oily product as the base of all spray medicaments, in contradistinction to watery sprays formerly used. There are patients who require the use of both, and perhaps frequently at the same time, yet both have their sphere of usefulness.

The "spray-habit" comes most frequently from the use of menthol in the oily menstruum, producing that cool sensation in the nose which is so delightful and exhilarating to the patient. The use of a spray primarily is supposed to be for its cleansing properties, and afterward, but very secondary, for its soothing and stimulating qualities. Now it is a well known fact that discharges from the membrane of both the nose and throat are watery or mucoid in character and, therefore, will not mix with oil. How utterly unscientific is it, then, to try and cleanse the nasal mucous membrane with spray material which is oily. Logically, watery cleansing solutions should be used first and then oily ones, should the case demand it. I hold that spraying of the nasal chambers is never justifiable unless there is catarrhal discharge from the membrane readily recognized on anterior rhinoscopic examination, or when there is an accumulation of mucus coming from some of the contiguous cavities such as the frontal or ethmoidal sinus, or the maxillary antrum. In such cases the spray must be alkaline and watery, for the endeavor should be to simply cleanse the membrane, and such a solution alone will do it. Oily sprays are too frequently used for this condition, and the result is the patient gets the "spray habit" and exceedingly dry nasal chambers. Oily sprays are useful in their place and especially so in acute inflammatory conditions of the membrane of the nose and throat, but in chronic conditions of the same membranes they are almost useless.

The Use of the Electrocautery. — This is an exceedingly useful instrument in the domain of rhinology and laryngology but like sprays it has been abused. In my earlier practice I used the electrocautery ten times where I now use it once. Not that it is not now serviceable, but then I used it for nearly every little enlargement which I found. Its great value in the nose is for the reduction of true hypertrophy of the membrane covering the turbinates when this is pouring out an unhealthy discharge or is so blocking the lumen of the nasal cavities as to prevent thorough passage of air. I say true hypertrophy, since that hypertrophy in the nose which disappears under the influence of cocain is not hypertrophy but nothing more than passive congestion or stasis. In the latter case it is foolish to use the electrocautery, for here is a condition in which the cause must be treated, and in a great many cases it is far removed from the nasal cavities. It may be a reflex phenomenon from various constitutional disorders, such as anemia, chlorosis, torpid liver, ovarian and uterine disease, heart lesions, disease of the kidneys, chronic constipation, and from nearly every constitutional dyscrasia.

If the specialist has had no experience in general medicine he never sees beyond the nasal cavities, but will use topical applications ad nauseam, to the weariness of both the patient and himself. Equally as important as when to use is the manner of using the electrocautery. I have seen many nasal cavities which have been made far worse by the use of the cautery than had it not been used at all. The trouble in many cases has been due to the too extensive use of this instrument with the result that the inflammatory reaction set up at the point of cauterization has been so severe that a dense band of cicatricial tissue extends clear across the lumen of the nasal cavities, and thus acts as a barrier to free respiration. There is no excuse for the production of this

condition if the physician has learned the proper technic and knows when the cautery should be used. "A good man can sometimes be made the unworthy instrument for the production of evil," and only too well can this aphorism be made to apply to the electrocauterist.

Another error frequently committed is the too frequent removal of enchondromata or cartilaginous spurs and exostoses or bony spurs from the nasal septum. When the full-fledged nose specialist opens his office for the reception of patients the first thing he does is to brandish his bright metallic saw and remove every little excrescence he finds on the nasal septum. Even now I can feel the enthusiasm which coursed through every fiber of my being when in the first few years of my practice I could discover a septal spur. But unfortunately some of my patients were made to suffer for this enthusiasm. With ripened experience I find that fewer spurs should be removed from the septum, and only in those cases in which other well-recognized methods of treatment have been tried and failed. My reasons for this are that after a spur has been removed from the nasal septum scar tissue is necessarily left as a result and this will always give the patient a point where mucus and scabs will form, to his constant annoyance, sometimes proving more annoying than the slight obstruction itself. It is very alluring to the young specialist to perform this little operation and thereby pocket a nice little fee, for the hope of material gain is sometimes not the only fault a physician will have.

Frequently, too, the specialist does not recognize the difference between dislocation of the columnar cartilages and an ordinary enchondroma, but picks up his saw and removes all anterior excrescences alike, leaving a place which will always be annoying to the patient. Close discrimination and the knowledge of when to operate should be the aim of every physician, be he specialist or not.

In conclusion, I have but a few words to say. The greatest trouble with physicians in general is, I believe, the failure to study minutely the history and symptoms of every patient before prescribing or administering treatment. The failure to make a proper diagnosis is the cause of most of the failures in a physician's work, and a physician to be successful must be a close, practical, and discriminating student. Men who have large practices are so apt to become routine in their methods, instead of studying each individual case, that they are often unsuccessful when just the opposite could be the case. Not long since I saw a case of paresis of the left vocal cord in a man who had been treated for three months for chronic laryngitis. His chief symptoms were hoarseness and fatigue after the use of the voice. Now this man had a difficult larynx to examine, but after repeated trials I was enabled to find the real cause of the symptoms. The physician who had been treating him recognized the hoarseness, and as it was chronic in character he simply made a snap diagnosis and so treated the patient without taking the tedious trouble to overcome a laryngeal spasm and obtain a clear laryngeal picture. Hence, I say there are two fallacies in medicine: first, that which is the result of ignorance from the lack of previous training and study; second, that which comes from making a snap diagnosis without minutely studying the case. Both classes are guilty, and in the long run the beneficent public will find out the physician upon whom they may depend.

THE IMPORTANCE OF A KNOWLEDGE OF THE PHYLOGENETIC DEVELOPMENT OF THE CHILD IN THE PREVENTION OF CHILDREN'S DISEASES.[1]

By E. STUVER, M.D.,
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In this age of world encircling intellectual activity, in which mind has penetrated so many of the secrets of Nature, and by directing its forces has secured such a great dominion over matter; when the thought and discoveries of the whole world are at the command of each individual worker we are prone to lose sight of the fact that while mind controls and directs matter, matter, on the other hand, exerts a powerful influence on the normal development and integrity of mind. Surrounded as we are by free schools, almost universal educational facilities and a public sentiment which, subordinating nearly everything else to the cultivation of the intellect, rushes the child, scarcely out of the cradle, into the kindergarten and thence through various grades of schools, colleges, and universities until he or she emerges at the age of twenty-five or thirty years a finished product of our modern educational system, we are apt to forget that cultivation of the intellect or cramming the mind does not comprise the whole of the development, and indeed, that unless very carefully guarded, by overlooking or ignoring the proper training and development of the body as well as the laws governing the development of the mind in the race such training may do infinitely more harm than good.

The child, instead of being a "little man" with the same thoughts, feelings, inclinations, capacities and powers, only on a smaller scale than a man, is, in truth, an altogether different being, and may be aptly characterized in his various stages of develop-

[1] Read before the Colorado State Medical Society at Denver, Col., June 20, 1899.

ment as an epitome of the development of the race. He passes through the successive stages of savagery, barbarism, and semi-civilization before attaining to the full civilization in which we live. During this progress the spectral forms of his dead ancestors surround him on all sides, and the mighty mental accumulations and beliefs of a long forgotten past impress upon him the various stages of credulity, inquiry, faith and full blown reason through which these ancestors have passed. With these facts fully impressed upon the mind, and thoroughly grasping the great truth that a symmetrical development of all the powers,—physical, intellectual, and moral,—is necessary to the greatest happiness and welfare of the human being, let us see whether our habits of living and educational methods accord with these fundamental laws of development, and if not, in what way the physician can help to point out the remedy.

As before indicated, the child is not a "little man" In both organization and function there are great differences between the two, and hence their nature and training should be different and made to conform to their organic and functional capacities. The glands, heart, lungs, muscular and osseous systems of the child possess a high degree of organic and functional perfection, and this would logically seem to indicate that the proper exercise and development of these various organs and systems is the rational and proper occupation of the child during childhood and early youth. In support of this inference it may be said that in the savage and barbarous stages of development of the race to which the young child corresponds these organs and functions are developed to a high degree of perfection. Such things as weak flabby muscles, flat chests, failing hearts, and impaired digestive organs were unknown, because their existence would have meant extinction to their possessors.

The muscular, osseous, and respiratory systems were developed to a high degree of perfection which was attained, not by disuse and confinement in ill-ventilated rooms for a considerable part of the day and the whole of the night, but by a careful and systematic exercise of the organs undergoing development. But while the physical organization was systematically developed and attained a high degree of perfection, and the special senses, especially the sight and hearing, were carefully trained from the earliest childhood until they became phenomenally acute among savage races, the intellectual development in many particulars remained in a rudimentary state. The powers of continuous mental application, abstract reasoning, and broad generalization were unknown to the savage, and were only acquired by the race through the slow, gradual process of evolution.

In support of the proposition that the young child represents and epitomizes the far away savage stage of the race from which he sprung, we have the further fact that while the organic development and functional capacity of his heart, lungs, glandular organs and muscular and osseous systems have reached a high degree of perfection at birth, on the other hand his nervous system is in a very immature and undeveloped state. The brain of the young child, as compared with that of the adult, contains a larger percentage of water, is softer, more easily irritated, and is much sooner fatigued on mental exertion; but, on the contrary, the perceptive faculties whose development depends on the training of the special senses are keen and alert and attain a high degree of perfection if given an opportunity in childhood to develop in accordance with the laws impressed by Nature upon the race throughout the ages.

With these principles clearly in mind let us see what application can be made of them by the physician in warding off physical and mental ills, and helping the individual and the race to attain the highest physical, intellectual and moral perfection and happiness. When we consider the phylogenetic history which the child represents at the time of its birth, the æons of time, and the enormous evolutionary progress through which it has already passed we can have some appreciation of the force and wisdom of a remark once made by Dr. Oliver Wendell Holmes, that in order to treat the child successfully, one ought to begin two hundred years before it is born. So strong are hereditary tendencies that no matter how favorable the environment may be they influence either for weal or woe the individual and his offspring for generations. This brings us to the first fundamental proposition, *viz.*, that in order to reach the highest development and the most complete living the individual should be well born; that is, both parents at the time of procreation should be in good health and free from all taint of tuberculosis, syphilis, carcinoma, or other hereditary or communicable disease or constitutional predisposition to the same. Then during pregnancy the mother should obey the laws underlying good hygiene and correct living in the matters of proper clothing, diet, exercise, and the avoidance of all stimulants and narcotics, as well as late hours and undue emotional excitement which has a peculiarly pernicious influence upon the rapidly developing fetus. One night of dissipation may cast a shadow over a thousand years of the phylogenetic history of the rapidly developing embryo. After

birth the infant should be nourished at the maternal fount designed by Nature for its sustenance, and if the mother has been properly cared for during pregnancy she will in almost every instance have an abundance of milk, and it will be a rare thing indeed to be obliged to feed the child on cow's milk, or the many nostrum foods with which the market is flooded. Then, too, it should be zealously guarded against poisoning by stimulants and narcotics in any form. Opium and alcohol in all their varied forms, with their siren and delusive promises should be forever banished from the nursery and the child at least be given an opportunity to select its own drug habits in later years without having them forced upon it at this early age.

Right here I want to make one suggestion: as you all very well know, water is the great solvent on which the system depends to convey nutritive material to every cell and tissue of the body, as well as to remove their accumulated waste and broken-down products. These cells and tissues are surrounded by dialyzing membranes through which a constant endosmosis of nutrient material and an exosmosis of retrograde products is going on. An abundance of water is necessary at all ages to keep these membranes in good working order, but especially is this true in infancy and childhood when the assimilative and eliminative functions are so active. Often young infants cry from so called colic, and are dosed with brandy, paregoric, or some such abomination, when they are suffering from thirst, and a few spoonfuls of cold water will relieve the difficulty and they will fall into a peaceful sleep. All young children should have plenty of pure water at regular intervals.

The clothing should be made so as to give free movement to the limbs and permit a natural and unrestrained development of all the organs and functions of the body. The young child should have at regular periods an abundance of plain, non-stimulating food and plenty of exercise and spontaneous play in the fresh air and should at an early age be trained to habits of regularity in attending to the functions of the body. As childhood is the time of active development, and as sleep is Nature's great upbuilder and restorer children should have an abundance of sleep during all these years and especially while attending school.

All stimulants and excitements, such as late hours, children's parties, and the many artificialities of our so-called advanced civilization which tend to bring about a premature maturity should be strictly avoided. During childhood, when their perceptive faculties, memory, and imagination are active, children should be brought in close contact with Nature from which they will gain far more physical strength, mental power, and wisdom than can be obtained from the formal methods and conventionalities of most of our schools. And right here I desire to enter a protest against the long hours, continuous mental strain, cramming methods, and forcing processes of most of our modern schools. Scarcely is the child out of the cradle before it is sent to a kindergarten school; here if it is so fortunate as to have a teacher who understands and is thoroughly imbued with the true spirit of Froebel's teaching, it passes a happy time, and receives much benefit. Its books are plants, flowers, trees, fruits, birds, insects, and the various objects, animate and inanimate, of the external world by which it is surrounded. The everlasting hills, rising in majesty and grandeur, the soughing of the wind among the trees, the murmur of the brooks, the glorious sunsets, the autumn forest with all its gorgeous hues and kaleidoscopic changes,—in short, the almost infinite variety of objects and the innumerable beauties of Nature can be made most impressive sermons by the true kindergarten teacher,—sermons which will sink deep down into the soul of the child and leave an impression on its body, its mind, and its character which the storms and vicissitudes of life will never obliterate. But, alas! such teachers as we have in mind are like angel's visits—rare, indeed—and come to us like a ray of hope from the great beyond. In the majority of instances even the life of the kindergarten is smothered by the blighting curse of formalism, and instead of being a blessing it is made a curse, and through ignorance or disregard of the most rudimentary physiologic laws lays the foundations of physical defect or disease.

But if this is true of the kindergarten, what shall be said of the average primary school? In the words of Dante, there should be inscribed over the portal "He who enters here leaves hope behind," because from my observation and information about our schools, from the time the pupil enters the first primary grade until he completes the grammar-school course he is continually subjected to such a grind and cramming for examinations that he must indeed be made of stern stuff if he does not emerge from this course weakened both in body and mind. The object of all true education should be a well rounded, symmetrical development of all the powers,—physical, intellectual, and moral—of the individual; but in the face of this truth which is acknowledged by all educators worthy of the name we see children from six to fifteen years of age during the time of intense developmental activity subjected to a course of study which, in many instances, is entirely beyond their comprehension, and a source of

constant irritation to their immature and unstable brains. Especially to be deprecated is the everlasting number work and arithmetic drill which appears to have become a mania with the greater number of the teachers in our schools to-day. From the time the unfortunate child enters the first primary, through the eight long years until he emerges from the grammar course, he is subjected to a continual grind in number work, problems, and examinations. Morning, noon, and night these are a veritable "Old Man of the Sea" to them, hanging like a pall over their hours of leisure and even invading their dreams; they become not only a menace to the health and happiness of the children, but also a nuisance to their parents who cannot enjoy a quiet half-hour because a puzzled child cannot solve a long list of problems far beyond its comprehension, and appeals for help.

But, after all, what results are attained from all this work, worry, and grind? I believe I am justified in saying that they are nearly always inadequate, and often a dismal failure, and that any eleven- or twelve-year old pupil who had never looked into a written arithmetic, but who had been carefully drilled in mental arithmetic, can do better work and obtain a clearer comprehension and more thorough grasp of the subject in three or four years than the struggling child obtains by its eight years of arduous and detestable toil. Then, too, the system of examinations in vogue in so many schools is a veritable *bete noir* to the pupils who are kept in a constant state of worry and irritation and subjected to a continual nervous strain. The work, instead of being inspired and vitalized by a love for truth and a desire to penetrate and understand the secrets and laws of Nature, becomes a mere mechanical cram and filling-up process to pass the examinations. This sort of work, as every one knows, has not only little real educative value, but by leading to makeshifts and subterfuges of various kinds as well as downright cheating degrades the pupil. Healthy mental and physical growth and activity are conditioned on an enjoyment or appreciation of the work being done. A distasteful task or one done under compulsion fatigues the mind much sooner and leaves a much more evanescent impression than one which arouses the pupil's enthusiasm and engrosses his whole attention.

When the teacher so directs the pupil as to call his physical and mental powers into play simultaneously the dry rot of formalism and routine vanishes as if by magic from the school, and instead of the tired disgusted look on so many young faces produced by the mechanical leveling process, which by confining within restricted bounds reduces all to the same plane of mediocrity, we see the flashing eye, the eager intent purpose, and the whole soul of the pupil aroused by a noble enthusiasm. Who will say that in true educative value one hour of such work is not worth weeks, nay months, of spiritless cramming?

Nor are spontaneity and interest less important in physical than in mental work. Free, unrestrained, spontaneous play in the open air is of infinitely greater value in developing the body than any indoor formal exercise, although properly directed gymnastic exercises, if subordinated to outdoor sports, can be made valuable adjuncts. So many pitfalls and dangers lie hidden in the pathway of the rapidly evolving child that in order to guide him wisely and safely through the intricate labyrinth, to avoid the Scylla of physical ills on the one side, and the Charybdis of mental evils and abnormalities on the other, it is necessary that the physician should at least have a clear outline knowledge of his evolution and know something of the physical and mental characteristics and potentialities impressed upon him throughout the ages.

MEDICAL PROGRESS.

Separation of the Symphysis Pubis During Labor.—Rutherford (*Louisville Jour. of Surg. & Med.*, June, 1899) reports the occurrence of the above rare accident in a woman aged twenty-eight years. She had had three previous labors, in two of which the child was delivered by forceps, while in the third craniotomy was necessary. In the fourth such strong traction was made upon the forceps that the physician felt something break. The forceps were removed, the uterus was kneaded, and the child was born spontaneously. Examination of the mother showed that the pubic bones had been separated at the symphysis. Recovery was tedious and complicated by septicemia, but was finally complete.

Apex Dulness without Pulmonary Tuberculosis.—Kernig (*Centralbl. f. Inn. Med.*, June 10, 1899) has found dulness in the apices of both lungs in patients who have been in bed for a long time with a wasting disease although no local pathological pulmonary condition was present. This fact was confirmed by autopsy in a number of cases. An observer might easily suppose that incipient or healed lesions of phthisis were present. The dulness is explained by the fact that the long stay in bed diminishes the amount of air in the apices so that the upper limit of the lung sinks and may even be retracted below the clavicle.

Operation for Congenital Phimosis.—Pousson (*La Semaine Medicale*, June 28, 1899) insists upon the desirability of obtaining primary union after operations for phimosis, as cicatricial bands and adhesions, especially in

the neighborhood of the frenum, will give trouble. His own operation is performed as follows: After disinfection an elastic catheter is wrapped twice around the penis back of the glans in order to control hemorrhage. A sound is introduced under the prepuce to break up any adhesions. The prepuce is seized with two clamps, one applied dorsally and one ventrally, and drawn forward. A fenestrated clamp is then applied transversely to the whole prepuce and back of it from eight to twelve threads of silkworm gut are passed through the flattened prepuce from side to side. The distal portion of the prepuce is then cut off and the sutures for the whole wound being in place are cut and tied. An extra stitch or two will be necessary at the frenum. The elastic catheter is removed and hemorrhage stopped by a hot antiseptic solution. An iodoform salve is smeared over the suture line. The stitches are removed on the fourth or sixth day. The results of this operation have been eminently satisfactory.

Anchylosis of the Jaw Due to Interstitial Myositis.—Seggel (*Duetsch. Zeit. f. Chir.*, May, 1899) describes a case of anchylosis of the jaw of rather unusual character. The patient was a woman aged forty-eight years who lost all of the molar teeth on the left side on account of caries. They were pulled out in a rough manner and marked inflammation followed each extraction. Three years after their removal the patient was exposed to a severe wetting and was thoroughly chilled. The left side of the face swelled badly and this swelling and pain lasted for more than three months. From that time on the cheek never regained its normal size but grew gradually larger without pain until it was impossible to open the jaw. A diagnosis of sarcoma of the ascending portion of the jaw was made and an extensive resection of the bone and soft parts, including the whole of the parotid gland, was carried out. Complete facial paralysis of that side resulted. The wound healed well and in six weeks the patient could open her mouth nearly an inch. The tendency of the jaw to fall to the right side was counteracted by a plate with an inclined surface. Microscopical examination of the excised muscle showed that its fibers were separated by a large amount of cicatricial tissue and the fibers themselves were atrophied. The question of syphilis, after careful consideration, was rejected. The lesions appeared to be due to traumatism at the time of the extraction of the teeth and to the inflammation caused at that time and after the exposure to the weather. Several similar cases have been reported, although usually anchylosis of the jaw is due to syphilis or to myositis ossificans progressiva or rheumatism.

Partial Retention of Urine.—Warden (*Edin. Med. Jour.*, July, 1899) says that the recognition of the condition of a bladder incompletely emptied by the urinary act is all important, although by no means easy. More than seventy-five per cent. of all cases of retention are due to prostatic enlargement. Complete retention is the late phase of the condition in these patients, while incomplete retention is very gradually established and often not recognized for years. The early symptoms therefore should be carefully watched for. These are nocturnal polyuria and persistent digestive troubles. Everything which favors local congestion, such as prolonged lying in bed, too sedentary a life, too rich a diet, a surface chill, disregard of Nature's call to urinate, sexual indulgence, tends to bring on an attack of retention. The bladder should be evacuated slowly and if there be any pain during the process, it will be well not to draw the urine completely off but to inject small quantities of warm boracic solution until it comes out as clear as when it was injected. In this manner the urine may be entirely withdrawn without emptying the bladder. If it is difficult to pass a catheter every two, four, six, eight, or twelve hours, as may be needed, it should be tied in, for artificial evacuation may be required for days. The golden rule is to empty the bladder often and aseptically for a considerable length of time. If the early period of prostatic enlargement be tided over successfully, one may be spared the greater anxiety of later complications. As the stagnation becomes more chronic, the complications and alterations in the general health rather than in the local condition make themselves felt. The bladder may consequently escape examination for months, although in all obstinate gastric derangements it is well to suspect and search for some intoxicating agent. When stagnation becomes so extreme as to be accompanied by obstinate distention of the bladder, it forms the most serious, most intractable, and yet the most overlooked of all varieties of partial retention of urine. The distention extends throughout the whole urinary tract from the bladder to the kidneys and, although in the beginning there may be no infection, the fundamental disorders will soon become organic. The patient's tongue is red and dry so that swallowing is intensely distasteful. There may be vomiting and diarrhea or constipation of an obstinate form. The pain, loss of flesh and appetite, together with the cachectic appearance and age of the patient, often suggest to the physician the diagnosis of cancer of the stomach. Inquiry will show that these patients are passing large quantities of urine, generally about one hundred ounces in the twenty-four hours. The urine is usually pale and clear. It cannot be too dogmatically stated that when these three symptoms—polyuria, frequency of micturition, and grave digestive troubles—are present the cause is almost sure to be a bladder which the patient cannot completely empty. Evacuation of the bladder should be begun slowly and very cautiously and may be increased to three or four times in the twenty-four hours if all goes well. The catheterization should be of such frequency that the patient is conscious of no strong desire to micturate, and upon each occasion a small quantity of solution should be left in the bladder. If infection is present, the bladder should be washed out with boracic solution or silver nitrate, $\frac{1}{1000}$. Along with local treatment the diet should be a generous one. Much milk, beef-juice, custards, eggs, etc., and bitter vegetable tonics and saline laxatives should be administered. Healthy out-of-door exercise in moderation is also recommended. If these principles of treatment are intelligently followed, excision of the prostate and castration can be reserved for intractable cases.

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SATURDAY, AUGUST 19, 1899.

THE BRITISH MEDICAL ASSOCIATION MEETING.

British and American medicine have been drawing closer and closer together for many years. The meeting of the British Medical Association in Canada two years ago gave progressive American physicians a living interest in the annual meetings of that body. The general course of events since that time has served to bring the two nations closer together in all their interests and community of language in the midst of strife has proved a bond of union more vital, though unsuspected, than would have been credited before the event.

We feel, then, in devoting considerable space this week to the proceedings of the annual meeting of the British Medical Association, which was held this year from August 1st to 4th at Portsmouth, England, that we are but responding to the wishes, expressed and unexpressed, of many of our readers who are anxious to know the latest views of the English-speaking branch of the profession across the water. The interest of the meeting is well reflected in the abstracts from the official addresses which we publish, and which serve well to show the trend of English medical opinion.

The conclusion of the President's address, in which he dares to prophesy a death-rate of 10 to 12 per 1000 for the population of our great cities before the new century is very old, is especially interesting. He does not ground his hopes on any new system of sanitation or tenement-house reform, but on the more intelligent and complete application of present methods. What is needed much more now than elaborated systems of improvement in the dwellings of the poor in cities is the intelligent cooperation of the inhabitants of the poorer quarters of our cities in the schemes for the amelioration of their sanitary condition. No amount of reform would be permanently successful without this. It will not require much teaching, but somehow an effectual recognition of how much they are able to make life more pleasant and more livable for themselves and families in the enjoyment of health, by the observation of simple sanitary measures, must be brought home to all the population.

The Address in Surgery contains a plain statement of certain facts with regard to the status of medical officers in the British Army that may well serve as an excellent lesson for our Government. We have entered upon a phase of our development as a nation which seems inevitably about to require a larger number of soldiers on the active list than before. It will be well to learn by British experience rather than our own the danger of neglecting the medical corps of the army. The necessity for keeping the medical corps at the highest possible condition of efficiency is well stated by Professor Ogston and the corollaries of that proposition, that army medical positions must carry with them the honor, rank, and emolument necessary to attract and retain the very best intellectual material from among the young medical men, are well and effectively brought out.

The Address on Tropical Medicine is one of the most interesting and complete of the series. England has taken up the white man's burden and English physicians at home are realizing their share of it and that on them and their work must depend the discoveries that will lift from the tropics the awful pall of indigenous disease which now makes them the tomb of so many Europeans. There is a lesson here, too, that we Americans may well take to

heart. We are entering on a period when many of our own citizens will deem it advisable to take up a tropical residence. Considering the proximity of our southern shores to tropical countries we have not as yet done the work in tropical diseases that might be expected of us. Especially the opportunities provided by our great ports of entry have not been used to as much advantage as they should as regards the opportunities they afford for the study of tropical diseases. Here is one of the great openings for American medicine in the new century.

CEREBROSPINAL MENINGITIS AND ANTERIOR POLIOMYELITIS.

We called attention to the fact not long ago that a series of epidemics of cerebrospinal meningitis were being reported from various parts of the country. We took occasion to point out about the same time the very practical medical importance of the careful study of all circumstances connected with cases of the disease and the benefit that might be anticipated from detailed reports of various epidemics. Our suggestion was accepted in certain quarters and we have had the opportunity to present to our readers accounts of a series of epidemics of the disease.

One thing is clear beyond a doubt, that this year in a number of different parts of the country, there has been an incidence of the disease quite unusual in its frequency and virulence. The conservative opinions of old practitioners would seem to indicate, however, that they are not surprised to meet with cases of the disease occasionally in their practice and that the disease must be considered in a way as endemic among our poorer population, at least in the larger American cities. The interesting question, then, is, How does the disease-germ maintain its existence in the interval between epidemics? Does it perhaps masquerade in the meantime under the guise of some milder or at least quite different form of disease and so escape recognition?

We have pointed out that at least one very conservative clinician in Europe has demonstrated the presence of the meningococcus intracellularis which is now generally accepted as the specific germ of cerebrospinal meningitis in the cerebrospinal fluid obtained by lumbar puncture from recent cases of acute anterior poliomyelitis. It is interesting to note, then, that following the report of a number of epidemics of cerebrospinal meningitis throughout the country, there should come accounts of an unusual incidence of anterior poliomyelitis in children this season. The daily newspaper press has had reports of a number of cases of this disease occurring, as has been noted not infrequently before, almost as an epidemic in some places. In the larger cities, as here in New York and in Chicago, we understand there is an impression that more cases of the disease are seen in private practice than usual.

Of course this does not connect the two diseases with any assurance, but it makes the study of their relations doubly interesting. Smallpox and chickenpox are usually considered as very far apart yet the Vienna School of Dermatology has not given up teaching that they are due to the same virus modified by conditions. Professor Senator of Berlin, a most conservative observer, says that whenever an epidemic of chickenpox occurs among the patients who come for treatment to his Polyclinic he expects to hear within the next few days of smallpox cases somewhere in the city and is seldom disappointed in his expectations.

Whether cerebrospinal meningitis and acute anterior poliomyelitis hold some such relation as this to one another will make an interesting question for study. We shall be glad to receive accounts of epidemics or sporadic cases of acute anterior poliomyelitis in which some connection with cerebrospinal meningitis seems possible, or in which symptomatic or other conditions seem to connect them.

The discussion of the question must serve to throw additional light on two very important diseases of children, in which the need for more light is only too evident.

ECHOES AND NEWS

Legacy for the University of Bonn.—Herr O. Holterhoff, a banker of Hannet, a small town in the German Rhineland, has bequeathed his property, estimated to be worth 1,000,000 marks (about $240,000), to the German University of Bonn.

Professor Roentgen Called to Munich. — Professor Röntgen of X-ray fame has received a call to the Chair of Physical Science at the University of Munich, Bavaria. He at present holds the same professorship at Würzburg, and recently refused a call to a chair at Leipsic. It is not thought that he will leave Wurzburg to accept the present call.

A New Feature in Bacteriology.—One of our non-medical contemporaries is responsible for the following: Mrs. Malaprop's country visitor had a sore back and her kind hostess insisted on her seeing a distinguished bacteriologist because, as she said, she had heard so much about recent advances in backteriology that she felt sure he would do her friend good.

Dangers of Medical Practice in East London.—It has always been understood that a doctor is safe from attack by nocturnal marauders, but the experience of certain physicians in East London recently proved that either this immunity never existed or that it no longer passes current. In consequence some of the physicians go about armed after dark while a greater number refuse to leave their offices unless adequately protected.

Medicine and Religion.—The Russian authorities limit the number of Jewish physicians to five per cent. of the total number of physicians engaged in practice. This is not a law of the government but merely an act of the examining board. As, however, no one can practice without a license from this board, it is easily seen that the board has no difficulty in enforcing its act, by refusing to grant licenses to Jewish physicians in excess of the stipulated number.

Russian Students Pardoned. — The Russian Minister of Public Instruction has issued a proclamation by order of the Czar to the effect that all students who took part in the University student disturbances last year are pardoned excepting only those who for special offenses or reasons are entirely excluded from attendance at the superior schools. Most of the students return to work toward the end of this month, some, however, not until August, 1900.

An Expensive Criminal Family.—Ada Zurke, who was born in Germany in 1740 and died in 1800, was a confirmed drunkard. Professor Pelimann, of the University of Bonn, discovered and identified 709 of her descendents. Seven of these were convicted of assassination and 76 others of different crimes, while 144 were professional beggars, 61 lived on public charity, and 181 were prostitutes. Altogether, the cost to the German government of watching, pursuing, trying, and boarding the members of this family, has been more than a million and a quarter of dollars.

Prizes for Work on Malaria. — The Committee of the Société des Etudes Coloniales of Brussels, Belgium has offered two prizes for successful investigations in malaria, each of the value of 2500 francs—$500. The first is to be awarded to any one who shall considerably advance our knowledge of Laveran's hematozoon malariæ in its cycle of existence, either within or outside of the human body. The second is to be conferred on any one who shall determine the exact etiology of the so-called malarial hemoglobinuria, the *fievre biliare hæmoglobinurique* of the French.

Koplik, or Flindt or Flindt-Koplik?—It now appears, according to a writer in the *Weiner Medicinische Wochenschrift*, that the early mucous eruption occurring in measles, the lesions of which have now become generally known as "Koplik spots," was described by a Danish physician named Flindt in 1880. The description corresponds so closely to that given by Koplik that there is absolutely no doubt that the eruption is the same. Will these spots be known to posterity as Koplik spots or Flindt spots or Flindt-Koplik spots; or will they again be forgotten and rediscovered, by some other observer?

Vicious Tubercular Patients.—An Italian correspondent of *Temps* mentions some murderous attacks upon nurses and doctors by tubercular patients in the hospital Santo Spirito. In one instance, in which a Sister of Charity was assassinated, public opinion inclined to the view that the patient was justly enraged on account of inhuman treatment; but in another instance a man who desired to be admitted, killed the examining physician because he was refused, so that the treatment in the hospital does not wholly explain these outbreaks of anger, which are the more remarkable as occurring in patients whose resignation and optimism are proverbial.

Professor Pflueger's Seventieth Birthday.—Professor E. Pflüger celebrated his seventieth birthday toward the end of July. He is the well-known Professor of Pathology at the University of Bonn in the German Rhineland and the editor of the widely read *Archiv für Physiologie* which is usually known as "Pflüger's Archiv." He is still hale and hearty and is doing excellent original work and directing others in his laboratory at the University. He is not, however, a great exception in this respect among distinguished professors at German universities since there are quite a number of septuagenarians still in active work and some few of more than three score and fifteen who have not as yet put off the professorial harness.

Professor Sanarelli's Reported Visit to America.—A recent number of *Science* published the announcement of a prospective visit of Professor Sanarelli of Bologna, Italy, to this country, in order to study the effects of his serum in the treatment of yellow fever. Other American journals have also published the item. As we have been in communication with Professor Sanarelli very recently we think we are in a position to correct this statement. Toward the end of July he wrote from Bologna that he was about to leave the city for a three- or four-months' vacation and that his address in the meantime would be Pratovecchio Arezzo. This for those who may care to communicate with him during the next few months on any of the important questions connected with his yellow-fever discoveries. Professor Sanarelli is very much interested in American medicine, and as his article in the MEDICAL NEWS last week showed, has been following our medical literature very carefully, but he has no present intention of paying us a visit.

Tropical Researches in Malaria.—The expedition sent

out by the Liverpool School of Tropical Diseases under the command of Surgeon-Major Ross for the investigation of malaria in South Africa sailed on July 29th. The English Colonial Office took the greatest interest in the matter and offered to help by every means in its power. The authorities at Sierra Leone have been instructed to furnish ever facility for the successful carrying out of the work of the expedition. Among other things the British Museum directors were asked to send their dipterologist, Mr. E. E. Austin, with the expedition, the Colonial Office offering to pay his expenses. The definite discovery of the exact species of mosquito that carries the plasmodium malariæ is considered of primary importance for the questions of prophylaxis and eradication of the disease that are now so prominently matters of consideration. The Belgian Government, interested in the matter because of its possessions on the Congo, has sent an officially nominated delegate, Dr. S. Van Neck, to visit and report on the Liverpool School of Tropical Diseases and to accompany the expedition.

Belgian Work in Tropical Diseases.—The sum of 50,000 francs ($10,000) was recently contributed to the colonial department of the Belgian government for the purpose of furthering investigation in "colonial pathology." A committee of the Société d'Etudes Coloniales at Brussels was appointed to consider the best manner of making use of the gift, the generous donor of which wishes to remain anonymous. It was finally decided to employ the fund thus created for the equipment and support of a scientific expedition to be sent to the Belgian possessions on the Congo in South Africa, for the purpose of studying the diseases of tropical climates in that region. Dr. Van Campenhout, a medical officer of the Belgian army, who had been twice on duty in the Congo region before, was selected as the head of the expedition and with him was associated Dr. Redding. After a great deal of preparation they set out at the beginning of last month. The Belgian government in South Africa (the Congo State) has established at Leopoldsville a well-equipped physiological and bacteriological laboratory in which the work of the expedition is to be carried out. We have noted above that a medical representative of the Belgian government accompanied the English medical expedition to Sierra Leone which set out only a month later, so that the deep interest in Belgium in tropical diseases and in making the Congo region more habitable for Europeans is evident.

Next Annual Meeting of German Naturalists and Physicians.—This year's meeting of this association is announced for the week of September 17th to 23rd at Munich, Bavaria. German physicians have been complaining for some years of the yearly increase of the number of sections and the consequent division of the work so that a satisfactory glance at medical and scientific progress during the annual sessions is more and more impossible but so far their complaints have been to no purpose. This year there are to be no fewer than 37 sessions, 17 in the natural sciences, 20 in medicine. Two general sessions are held at each annual meeting. This year three addresses are to be given at each of them. At the first general session Dr. Fritzjof Nansen, the famous Polar explorer, will lecture on "The Results of My Expedition to the North Polar Region"; Professor Ernst Von Bergmann, Professor of Surgery at the University of Berlin, will talk on "Radiography in the Treatment of Surgical Diseases," and Professor Foster will lecture on "The Change in the Astronomical View of the World During a Century." At the second general session Professor Birch Hirshfield, Director of the Pathological Laboratory at the University of Leipsic, will deliver an address on "Science and Medicine"; Professor Boltzman will discuss "The Recent Development of the Methods of Theoretical Physics" and Professor George Klemperer of Berlin will lecture on "Justus Von Liebig and Medicine."

International Conference for the Prophylaxis of Syphilis and Venereal Diseases.—At the meetings of the conference to be held in Brussels, September 4, 1899, and the following days, besides the prophylaxis of venereal disease, the question of methods for the control and regulation of prostitution is to be discussed. Papers are to be read by Drs. Fournier of Paris, Neisser of Breslau, Lassar of Berlin, Finger of Vienna, and by a number of others prominent as students of these questions. The committee has appointed the following physicians as delegates to investigate the conditions of prostitution in their respective countries: Argentine Republic, Dr. Baldomero-Sommer, Buenos Ayres; Austria, Dr. Finger, Vienna; Drs. Bayet and J. Verhoogen, Brussels; Bosnia, Dr. Gluck, Savajevo; Chili, Dr. Valdes-Morel, Santiago; Denmark, Dr. Ehlers, Copenhagen; England, Dr. Geo. Ogilvie and Dr. Drysdale, London; France, Drs. Ozenne and Julien, Paris; Germany, Drs. Blaschko, Berlin, and Neisser, Breslau; Hungary, Dr. Rona, Budapest; Holland, Dr. Selhorst, The Hague; Italy, Dr. Tommasoli, Palermo, and Dr. Bertavelli, Milan; Norway, Dr. Axel-Holst, Christiania; Roumania, Dr. Petrini de Galatz, Bucharest; Russia, Dr. Petersen, St. Petersburg; Sweden, Dr. Welander, Stockholm; Switzerland, Drs. Jodassohn and Schmidt, Berne; Turkey, Drs. Von Duhring and Zotos, Constantinople; United States, Dr. Isadore Dyer, New Orleans. Dr. Dyer, the delegate from the United States asks that any data bearing on the subjects to be discussed at the conference be sent either to Dr. Dubois Havenith, Secretary-General of the Conference (15 Rue du Gouvernment Provisoire, Brussels, Belgium) or to himself (at 124 Baronne street, New Orleans, La.). Dr. Dyer has already sent to the health boards of all cities in the United States containing more than 20,000 inhabitants a list of questions the answers to which will supply useful information for the purposes of the conference, as to the state of affairs at present existing in this country in the matter of prostitution and venereal diseases. A copy of these questions, which are very pertinent and suggestive, will be sent on request to any one who is interested in the subjects to be discussed at the conference and who thinks he can supply useful and pertinent information.

MEDICAL MATTERS IN NEW YORK.

SMALLPOX ON A LINER—HORGAN AND SLATTERY, ARCHITECTS—MAN WITH TWO HEARTS—MANY STREET-CAR ACCIDENTS—VETERINARY COLLEGES UNITE—VIOLENT DEATH OF INSANE PATIENT—CHRISTIAN SCIENCE AND THE CORONER.

THE Red-Star Line steamship "Kensington" arrived on August 8th from Antwerp, having on board a boy twelve years old, a steerage passenger who had been stricken with smallpox on July 29th, and was immediately isolated in the ship's hospital. No other cases were found, but the ship was detained until the possible exposure of the passengers and crew could be determined.

We learn that Messrs. Horgan and Slattery, "the official architects" of this municipality, have filed plans for a new two-story building on the north side of Sixteenth street, east of Avenue C, to be used as an office building by the administrative staff of the Willard Parker Hospital. The building is to cost $16,000. Mr. Horgan, at the Mazet investigation a few days ago, announced himself to be "the equal of any architect living," and Mr. Slattery, when questioned concerning his qualifications, said that he "didn't know nothing about such things. You'll have to ask my partner." We may, then, expect a creation eclipsing the poems which Phidias shaped in stone. But we had better not be too sanguine, for Mr. Horgan's most brilliant successes have been in the construction of mud-scows.

There are members of the lay press who have about as much knowledge of anatomy as a Christian-Scientist has. It is related that "a man who has two hearts" called on a Brooklyn physician, Dr. John H. Lawrence of 347 Jay street, who examined both sides of his chest and found a heart on each side. Then the patient, "by some muscular contraction, pulled one of his hearts down into the lower lateral portion of his pelvic cavity, while he held the other heart in its normal position. Then he reversed the position of the two organs, and the physician in each case plainly felt the thumping of the organs as the blood was pumped through them." Or may we suspect that this newspaper man was indulging a sense of humor?

The report that the State Railroad Commissioners propose to take some action during the coming winter to prevent the numerous accidents caused by the various trolley lines throughout the State calls attention to the number of street-car fatalities recorded by the Health Board of this city. During the first quarter ending March 30, 1899, there were twenty-eight people killed by this city's elevated and surface roads. During the second quarter there were twenty two killed by these agencies.

It has been decided to consolidate with the New York University the New York College of Veterinary Surgeons, chartered in 1857, and the American Veterinary College, established in 1875, these being the only institutions for teaching veterinary science in this city. All the members of both faculties resigned, and a new faculty was appointed, principally from among their number, with Professor Alexander F. Liantard of the American Veterinary College as dean. Among the Faculty are Professors John A. Mandel and Edward K. Dunham, and Dr. William H. Park, all of the New York University and Bellevue Hospital Medical College. The consolidation was made in obedience to the principle now generally accepted in America that each degree-giving professional school should be part of a university. The new school will open its first term October 2d at the college building, 141 West Fifty-fourth street.

Coroner's Physician Hamilton Williams made an autopsy on the body of James McGuire, a paretic who died in the Manhattan State Hospital on Ward's Island on August 5th, the result of which led to the commitment of Keepers Sexton, Ryan, and O'Donnell in the Tombs pending the inquest. Keeper Whyte was sent to the House of Detention as a witness. Dr. Williams found scarcely a spot on the man's body free from contusions. Six ribs were broken. "The kidneys and liver had been badly bruised." There was a large egg-shaped bruise upon the back of the head. The intestines were torn and bruised, the peritoneum was torn almost to shreds and there were about three pints of blood in the abdominal cavity.

The New York State Lunacy Commission will consider the case of McGuire. It has received a report from First Assistant Physician Rowe of the Manhattan State Hospital, in which it is stated that as the patients were about to go out for exercise McGuire suddenly turned upon Attendant Ryan and struck him in the neck with his fist. "Two other attendants came to the assistance of the first and endeavored to control the patient, but being a powerful man, they were obliged to place him upon the floor, two bearing down upon his arms and chest, the third holding his feet. After his paroxysm he was allowed to get up and go into the wash-room. Returning to the ward he sat down, but the attendant, noticing he was very pale, sent for the ward physician, who administered stimulants, but the patient died in a few minutes." McGuire suffered from general paresis. He was of very powerful physique and boasted of his strength as a wrestler and as a "strong man." It is well known that the bones of the insane are more easily fractured than those of other people.

John A. Campbell, sixty-four years old, a teacher of the doctrine of Christian Science, died August 11th at his home, 118 East Ninety-second street. He had suffered a stroke of apoplexy several days before and was attended by two so-called Christian-Science "healers." The evening previous to his death Dr. J. S. Sobel of 1421 Lexington Avenue was called in, but the "healers" would not consent to his treating the patient. Dr. Sobel then notified the Board of Health. Detectives, on going to the house, were shown a death-certificate signed by Dr. Jennie E. Gore of 1145 Park Avenue, on which the cause of death was stated to be "cardiac paralysis induced by apoplexy." Dr. Gore had been called in at 11 A.M., four hours before the man's death. She said she had given a death-certificate in the belief that as another doctor had preceded her it was all right to do so. The law requires that the physician granting a certificate of death shall have been attending the patient for twenty-four hours prior to the person's death; otherwise the case

must be put into the hands of the coroner. Coroner's Physician Weston made an autopsy on the body of Campbell on August 12th. Cerebral hemorrhages and pleurisy were found. Coroner Fitzpatrick will make an investigation.

No reflection upon Dr. Gore is intended in the following extract from the report of the investigation concerning Christian Science made for the MEDICAL NEWS (*vide*, p. 170, January 21, 1899. "The following observation will tend to illustrate the inherent dishonesty of this movement: One of these 'healers' complained to me of the disadvantage at which Christian Science is placed in these times. Should one of their patients die the case must become a coroner's case and be subject to his investigation. A Christian-Scientist's certificate of death would not be accepted. Therefore, should they get into any trouble of this sort, they have to seek (and it is declared they sometimes find) an obliging physician who will get them out of their trouble by signing a certificate for them."

Coroner Fitzpatrick is an honest and a just man; and the combative temperament of the Celt is well developed in him. And if his political superiors will not interfere with his work we may expect from him a vigorous investigation of this case.

CORRESPONDENCE.

YELLOW FEVER AT HAMPTON, VA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The yellow-fever epidemic may safely be considered as under control, if not ended. There are no cases outside the Soldier's Home, to which place there will be no trouble in confining the disease. On the advice of the surgeons of the Marine Hospital Service (the officers of the State Board of Health approving) the Board of Health of this town decided on August 10th to raise its quarantine against Hampton, Norfolk, and Warwick County, the Soldier's Home and Phœbus, however, remaining strictly guarded with a double cordon. It looks now as if the quarantine against Phœbus will be raised to day, there having been no case there for fourteen days. As a matter of fact, it is the opinion of Dr. Wasdin that but one of the three cases reported at Phœbus was true yellow fever. The second so-called case was not seen until convalescence had begun and he preferred as a matter of precaution to look upon it as a case of yellow fever and treated the patient accordingly.

Norfolk raised its quarantine against this part of the world on August 12th, and so ends, I think, what threatened to be a most serious outbreak of this dread disease. This surprisingly rapid eradication is the result of the magnificent work of Dr. White and the officers of the Marine Hospital Service associated with him. Now that it is over, the wiseacres, though many of them fled like sheep at the first report, are giving it as their opinion that because the fever did not spread it could not have been yellow fever, but as Surgeon-General Wyman remarked, if the Marine Hospital Service prevents an epidemic from spreading the Government is blamed for putting the people to the manifold inconveniences of quarantine but these people are only too ready to pillory the Service if the disease is allowed to get beyond control. It is only fair to the people of this district, however, to say that as a rule they behaved with the utmost common sense, and have given the officers of the Marine Hospital Service every consideration and help. It is pleasant to record, amid the utter indifference of the country toward the Marine Hospital Service and its surgeons, that the citizens of Hampton are about to present Dr. White with a handsome chronometer in recognition of his services in this crisis.

The indifference toward the Marine Hospital Service, strange as it may seem, is shared in almost as great a degree by the medical profession as the laity. They have but little idea of the splendid efficiency of the service under Dr. Wyman, and of the intelligent devotion of the surgeons to their duties. In the present epidemic, for instance, scarcely an hour had passed before the patients had been segregated and the infected localities placed under guard. A house-to-house inspection was immediately begun, not only in Phœbus, but in Hampton, Newport News, and in the entire neutral zone, extending from Newport News some thirty miles up the railroad. The writer was ordered to inspect Warwick and part of York County and drove upward of one hundred and twenty miles through the small towns and county districts inspecting houses and running down reports. No one who has not been in a yellow-fever district can have any idea of the false reports which get abroad, of cases here and there, and the terror which is spread by such statements; and it is plain that one of the chief duties of the Marine Hospital Service is to run down such stories and investigate cases of reported sickness.

Speaking of the terror which the mere mention of yellow fever causes, it seems to me it would be a good idea for the Government to print a pamphlet that could be understood by the laity, for distribution among the people, which should show the efficient way in which the epidemics since 1879 have been controlled, and the low death-rate from the disease. They should be made to know that yellow fever does not necessarily mean black vomit, for unquestionably this is their impression.

Speaking generally, I do not suppose that any one will deny that there should be a national control of all matters quarantine. As matters stand to-day the local boards are prone to give much consideration to the purely commercial side of the matter. Norfolk, for instance, quarantined against Newport News without any good reason for doing so, and Newport News naturally retaliated, and this brought about great loss to both places and considerable private deprivation. I am afraid that it is a great temptation for local boards to use their power in such cases for the pecuniary good of their towns without consideration of the intrinsic necessity of such rigorous procedure. The Marine Hospital Service as a national institution should have the power of deciding the question of quarantine in all instances.

FRANK DONALDSON, M.D.

NEWPORT NEWS, VA., August 15, 1899.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

THE SIXTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT PORTSMOUTH.

PORTSMOUTH, ENG., August 2, 1899.

THE opening sessions of the sixty-seventh annual meeting of the British Medical Association at Portsmouth yesterday were only fairly well attended, the unusually hot weather working upon the British horror of being warm to keep many at home. The natives of The Island do not consider themselves healthy except when just on the verge of goose-flesh, save as a result of exercise and shiver themselves into rheumatism and bronchitis through the entire winter in their unwarmed houses, sustained by the sense of living up to their ideals of hygienic duty. The one thing they dread is being comfortably warm, which is "dangerous" according to their Puritanic health-creed, probably just because it is enjoyable.

Of course the actual business of the meeting does not begin until to-day and the tide of attendance was setting in strong last night and this morning but I fear the 1800 visitors anticipated by the local committee will hardly materialize unless a Polar change in the weather comes to-day, of which there could hardly be less prospect than at present. Another thing that makes the Englishman dread hot weather in town is his abject slavery in the matter of dress. The black coat and the silk hat are as *de rigeur* in any public place, except at a cricket-match or a race meeting, as the breech-clout in Timbuctoo, or rather more so, indeed. Few self-respecting Britishers would dare to appear without either, and ye English medical man is nothing if not proper, wearing his dress suit on every possible occasion, even to meetings of local medical societies.

It always strikes an American pagan curiously that the first morning of a medical association should be devoted to solemn religious opening services, in cathedrals wherever possible, with the added horrors of a long sermon by a solemn ecclesiastic, who probably for the first time in his life has a chance to tell a group of "*tres medici duo athieste*," as the old medical proverb ran, what he thinks of them from his pulpit without fear of reply. The usual burden of his song is how honored the profession ought to feel by the wonderful opening that it has for promoting the true, highest, *spiritual* welfare of humanity, by upholding the hands of God's only chosen professional servant—himself! Strange that our profession does not seem more sensible of the honor.

The chief subjects before the General Session in the afternoon were the Commissions' evil, the Midwife's bill, and direct representation of practitioners in the Medical Council. This last, under the leadership of that experienced warrior against ancient abuses, Mr. Victor Horsley, to whom the profession is already indebted for so many reforms, stirred up quite a hornet's nest, but progress was made, though after the native fashion, with much grumbling. Upon the Secret Commissions' question the council reported that they had heard allegations as to the acceptance of commissions by medical men from druggists, instrument-makers, and *even undertakers* [laughter] but upon investigating these rumors they had come to the comfortable conclusion that most of them were unfounded. Such as had any basis in fact referred to presents after and not to offers before, especially we trust in the case of undertakers. The failure of the Council bill for the registration of midwives was brought up by Dr. George Brown and the alleged bill for this purpose, now before Parliament, drawn up by the midwives themselves, was denounced as "the worst that could be imagined," which the Association endorsed by passing a strong resolution condemning it.

The Parliamentary Committee was thanked for its successful exertions on behalf of Dr. Lamont, the shamefully imprisoned vaccination officer of South Uist and a vote of condolence with the gentleman himself passed.

Dr. Ward Cousins delivered his President's Address in the evening, an interesting and most practical one. He could not, of course, resist the temptation of the classic *piece de resistance* on such occasions, a sketch of the progress of medicine during the present century, but this though so deadly familiar was well done and he soon got cleverly away from it. The "growing influence of the new methods of reseach" and "the decline of abstract reasoning and theoretical speculation" was rightly commended but not without a shrewd hint that it *might* be possible to keep our thumbs so busy that our brains have no time to work out their results, and that the highest function of the medical investigator is *not* to turn himself into a mere Babbage calculator, for registering mathematical results and turning out machine-made "averages" therefrom.

The Conscience clause was condemned as a backward step and the huge pile of "smallpox fuel" which is steadily heaping up under it, in readiness for another epidemic, was noted with apprehension.

Dr. Cousins also called attention in a timely way to the fact that the greater part of drug-taking is done by the people themselves, without the sanction of a physician, and prophesied a marked decline in the amounts of medicine used as the laity—and he might have added, to be perfectly fair, the profession—became more intelligent. He hoped ere long to see every alleged specific protected by the Government stamp compelled to display upon its label an exact formula of its contents; falsification of which, if proved by analysis, would annul the patent.

The Association is about to be asked to take a hand in the fight of the members of the College of Surgeons for representation upon its Council, notice having been given of a motion to that effect. It seems hardly likely that this body, however, will consider the matter within its province.

AUGUST 3D.

Our forebodings based upon yesterday's small enrolment have been fulfiled and the Sections this morning are thinly attended, such members even as have come seeming more immediately interested in the excursions and entertainments, and no wonder in this scorching heat in a land where they don't know the A B C of how to keep themselves cool. No ice within miles and the

starchiest and stupidest of drinks—nothing with a gleam of cooling inspiration in it!

No badges are worn at these meetings, which is a pity as they form pleasant souvenirs of the place. Not that they are in the least needed, for the fine, professional air of the "M. R. C. S. L. R. C. P." can be recognized across the street. The gathering fairly glows with refulgent respectability and the suavely judicial manner of the consultation-room surrounds even each separate individual member as with a halo.

The Local Committee has been most generous of its labor in arranging a perfect swarm of excursions to the Isle of Wight, Winchester, Salisbury, and a score of places of interest in the neighborhood.

The general meetings are held in the Great Hall of the imposing Town Hall, hung round with the banners of the Sea Kings, Nelson, Anson, Collingwood, Drake, whose very names bring the blood to even an American cheek, heroes as they are of our common race.

The sections are held in the committee rooms of the Town Hall and in various rooms in the neighborhood, very convenient of access but a little incongruous at times in sound at least. The Pathological, for instance, is held in an infant school in the delicately appropriate region of "Salem Street" but how much better the Section on Pediatrics or even Obstetrics would have fitted there. The Section on State Medicine is held in a gas company's office, where it is to be hoped their discussions will not make the meters register any faster than they do at present.

The Drug and Appliances' Exhibit, which we frankly label as the advertising display, is here dignified by the title of "Annual Museum" and a huge catalogue of the exhibits is printed by the Association.

SCIENTIFIC MEDICAL JOTTINGS FROM AMERICAN TROPICAL COUNTRIES.

HOG-CHOLERA IN BRAZIL.

THE declaration of Drs. Reed and Carroll of the Army Medical Department at Washington that Sanarelli's supposed bacillus of yellow fever is really the bacillus choleræ suis gives special medical interest to the existence of that disease in countries like Brazil, where yellow fever is endemic, and in South-American countries generally. In the *Revista Medica de S. Paulo*, Brazil (a Portugese medical monthly), for June 15, 1899, Dr. Bonilha de Toledo reports the conclusions of some interesting work in the bacteriology of the disease done at the Bacteriological Institute of the State of St. Paul.

The investigation puts beyond all doubt the existence of hog cholera in the neighborhood of S. Paulo, and gives some interesting details of the biology of the specific bacillus of the disease. The germ isolated from the hogs can by cultivation in artificial media in pure culture, be made to lose its virulence practically entirely, so that susceptible animals are able to tolerate without inconvenience "relatively enormous" injections of the microbe. Its virulence on the other hand can be enormously increased by passage through such animals as the rabbit and the guinea-pig. Hog cholera, as observed in Brazil, is the same disease as has been described by French writers under the name of pneumo-enterite. [Professor Sanarelli seems to have demonstrated in last week's MEDICAL NEWS that it is a laboratory error that has led the American investigators to declare that the bacillus choleræ suis and his bacillus icteroides are the same micro-organism.]

CAUSE OF YELLOW FEVER AT MONTEREY, MEXICO.

The result of the investigation of the origin of the yellow-fever epidemic of last year at Monterey was announced in the *Boletino del Cons. Sup. de Salubridad*, Mexico, No. 6, 1899. The infection came from the port of Tampico where yellow fever is proclaimed to be endemic, and was carried by way of the railroad. The commission thinks it has demonstrated that merchandise and freight of various kinds as well as sick human beings can carry the contagion.

With regard to the pathology of yellow fever two lesions especially are insisted on that have not heretofore been given a sufficiently prominent place in the morbid anatomy of the disease. In many cases there exists an exquisite fragmentation of the myocardium and in nearly all an intense fatty degeneration of the kidneys. The microscope shows large zones of renal steatosis in the midst of which there is complete destruction of the uriniferous tubules, in fact the secreting substance and all the essential parts of the kidney proper are reduced to a disorganized mass of fatty material.

In the bacteriology of the disease the commission finds a great liability to secondary infections. This has, of course, been already very much insisted on by Sanarelli himself. They found the bacillus icteroides with the biologic and morphologic characters indicated by Sanarelli, and besides this micro-organism practically always ordinary forms of staphylococcus, streptococcus, the colon bacillus, and proteus, etc., which must be considered as nearly always playing an etiologic rôle in the production of certain of the symptoms of yellow fever.

THE BACILLUS OF YELLOW FEVER AND MOLDS.

Last year Dr. de Lacerda pointed out, as we reported at the time in the MEDICAL NEWS, that a very remarkable symbiosis existed between certain molds and the bacillus icteroides. He saw in this symbiosis the probable reason why yellow fever infects especially the sea coast, and generally damp localities as on shipboard, for it is in such places that molds grow most luxuriantly. Further study has confirmed his original conclusions (*Brasil Medico*, No. 20, Rio de Janeiro, 1899). Not every kind of mold favors the growth of the bacillus icteroides, however, but especially a brownish form of aspergillus. Dr. de Lacerda has found in a tube of agar originally inoculated with bacillus icteroides, but which seemed to remain sterile and which was practically thrown aside in the laboratory, that at the end of a year, examined by chance, there was found a rich growth of this special brown form of aspergillus. In the meshes of the mold were forms of bacillus which proved on further investigation to have all the morphological and biological characteristics of the bacillus icteroides.

It is assumed that the gelatinous mass formed by the aspergillus makes a habitat for the bacillus icteroides outside the human body. This is interesting as one of the very rare cases of plant parasites acting also as human parasites. Observation in the neighborhood of Rio Janeiro has shown that the most common mold in the summer time is precisely the aspergillus, while in winter only pencillium and mucor are to be found which would give a new reason for the failure of yellow fever to be epidemic during the cold weather. This is not the only interesting biological relation between the two micro-organisms, for further study seems to show that the bacillus icteroides and aspergillus are affected in a very similar manner by meteorological conditions generally.

YELLOW-FEVER DISTRIBUTION THROUGH THE AIR.

Professor Sanarelli, commenting on this work of Dr. de Lacerda (*Clinica Moderna*, No. 26, 1899), says that yellow fever is one of the diseases that seems beyond doubt to be spread through the air and not to require direct contagion. In this symbiosis with molds, a symbiosis that may preserve the bacillus icteroides, as has been shown for long periods of time, there is to be found a ready explanation of one method at least by which it might find its way into the atmosphere and be easily carried about entangled in the feathery meshes of the mold.

IS SANARELLI'S BACILLUS ICTEROIDES A SPECIFIC PATHOGENIC MICRO-ORGANISM?

The conclusions of Dr. London's work on the bacillus icteroides, though done at St. Petersburg and published in the last annual report of the Russian Society for the Care of Public Health, seem to deserve a place in this column. He was asked by Professor Lukianow, the well-known head of the Imperial Institute at St. Petersburg to study a pure culture of the bacillus icteroides. He finds that Sanarelli's bacillus must be considered as a particular species of bacterium endowed with undoubted pathogenic properties for various animals. Microscopic examination of the organs of animals that died after injections of pure cultures showed a state of congestion and a fatty degeneration of the cellular elements. The bacilli were found either isolated or collected in groups sometimes within, sometimes outside of the capillary vessels. London observed the change of form under changes of temperature, which Sanarelli considers so characteristic of his bacillus icteroides.

SOCIETY PROCEEDINGS.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-seventh Annual Meeting, Held at Portsmouth, England, August 1, 2, 3, and 4, 1899.

FIRST GENERAL SESSION.

OWING to the illness of the retiring president, SIR THOMAS GRAINGER STEWART, DR. ROBERT SAUNDBY, president of the Council, took the Chair, and introduced the president-elect, DR. JOHN WARD COUSINS, who was enthusiastically received. He chose as the subject of his address,

THE CENTURY'S PROGRESS IN MEDICINE AND SURGERY.

He reviewed the progress of medical science during the century just closing, saying in part: The great characteristic of the beginning of the century was the growing influence of new methods of research, and the declining power of theoretical speculation and abstract reasoning. The brilliant researches of John Hunter, and the results of his extraordinary industry and patient study had given a great impulse to the study of anatomy and pathology. His teachings are recognized as the foundation of British surgery. Scotland aided in the evolution of the healing art, and the fame of Cullen extended far beyond the British Islands. In 1828 John Abercrombie published his famous work on the diseases of the brain and spinal cord. In Ireland Robert Graves was an eminent clinical teacher and expounder of the phenomena of disease. William Stokes will ever be renowned for his researches and writings on diseases of the heart and chest. In France medical science was roused by the researches of Bichat in anatomy and physiology. Soon after the medical world was startled by the new methods of physical diagnosis introduced by Laennec. In 1840 Bright described the disease of the kidney which is still known by his name; and not long after Bell and Marshall Hall made it possible by their labors to discriminate diseases of the spinal cord.

Let me remind you that the first years of the century were marked by the rapid and complete triumph of vaccination. Jenner's first treatise appeared about 1799 or 1800. In 1802 the question of vaccination as a preventive remedy for smallpox was brought before Parliament. The new method spread rapidly over England, then to Germany, France, Italy, America, and the whole civilized world. It is a well-known fact, however, that this remarkable acceptance of vaccination at this time was due to the efforts of public-spirited men rather than to the members of the medical profession. Many of the doctors of that day considered the practice as medical quackery, and even charged the vaccinators with flying in the face of heaven. Yet at this period smallpox was a frightful scourge. Throughout the Eighteenth Century nearly every human being suffered from the disease, and the mortality was often appalling. Jenner died in 1823, still doing battle with the foes of progress, and in the hour of victory. We can now look back upon the experience of 100 years and accurately estimate the value of his great discovery. Since the introduction of vaccination there has been a steady diminution in the death-rate caused by smallpox. During recent years the disease has been almost exterminated by infant vaccination and revaccination in the later periods of life. Wherever an outbreak has occurred, the unvaccinated are attacked in much greater proportion than the vaccinated; and the mortality among the unprotected is much higher than among those who have submitted to this safe and protective remedy. The recent modification of the vaccination laws is regarded

almost universally as a very unsafe and retrograde change and there is reason to fear that sooner or later there may be another outbreak of the disease. I am confident, however, that the voice of the medical profession will never cease to sound the alarm, and that our great Association will never hesitate to put forth all its influence and strength until the adversaries of sanitary progress have been defeated, and the old enemy slain again at our gates.

During the early years of the century the development of the various industries rapidly caused a migration from the country toward the provincial centers, and for this increase of their inhabitants there was very little accommodation. I need not remind you of the wretched state of the houses of the working population in those days—the narrow courts, the stifling slums, the unwholesome factories, the neglect of cleanliness, and the total absence of any rudiment of sanitation. It is not surprising that, under these conditions, disease, deformity, moral and physical degeneration were the results. The bills of mortality of London at this period sometimes reached 50 to 60 per 1000 living. In 1834 the Legislature commenced action in the sanitary interests of the people. Soon after a national system of registration was introduced, and the causes of death were certified by medical men. Acts of Parliament were also passed to give power to town authorities to provide water-supply and drainage. Pioneers in sanitary reform arose on every side, while fresh revelations of neglect startled the intelligent people, and a loud demand arose for increased legislative control. But there was an outcry from the grasping holders of vested interests, and from the prejudiced of every class of the community, against the growing power of sanitary reform and every earnest effort to cast out preventable disease. The dreadful epidemic of cholera in 1848, and the largely preventable horrors and sufferings of the soldiers in the Crimean War in 1855, were productive of still further beneficial legislation.

The name of Florence Nightingale will ever be associated with the evolution of hospital reformation in this country. She roused not only the civilized world, but also the professors of the healing art, and the loud demand for hospital reform which has been extended through the length and breadth of the land can be fairly traced to the mental power and splendid devotion of Florence Nightingale.

The early part of the century will ever be recognized as the birthtime of modern pathology. The teaching of John Hunter was a long way in advance of his predecessors and he was the first to recognize that all the processes of the organism belonged to biological science. He saw that disease was only a deviation from health and that both conditions were regulated by the same vital laws. The manufacture of the acromatic compound microscope in 1830, made possible the discoveries of Schleiden in vegetable tissues, and those of Schwann in the cellular structure of animal bodies, but we are indebted to Virchow for exhibiting histology as the real instrument for unfolding the deep mysteries of disease. He practically gave the medical world a new pathology founded upon laborious observation and experiment. Every kind of organic structure and every new formation, he announced could be traced to a vital source.

An inquiry into the early history of many branches of science clearly indicates that old speculations concerning obscure phenomena have often in the long run proved to be real anticipations of future progress. About 1840 Watson ascribed the wide diffusion of influenza and other infectious fevers to the presence of minute substances: "Myriads of animalcules may come in contact with the mucous membrane, and exercise a poisonous influence on the system. The gaseous fluid which surrounds this planet teems with living atoms, and these atmospheric infusoria probably congregate in masses sufficient to render noxious the very air." The theory of fermentation enunciated by Professor Liebig tended at this period strongly to confirm the parasitic theory. I cannot pretend to sketch the evolution of this young science, but only to mention that this fresh light has arisen from France, Germany, and England, and that it is mainly due to the brilliant labors of Lister, Pasteur, and Koch. Lord Lister has generously expressed his indebtedness to Pasteur for his original researches; Koch has by his splendid ingenuity made the most important improvements in the bacteriological technic. No doubt they are all indebted to each other, and the world of science will be for ever indebted to them all.

We are greatly indebted to our distinguished member, Sir James Paget, for his brilliant efforts to promote research in comparative pathology. Only a few years ago the real nature of that dreadful scourge of the human race, tuberculosis, was discovered, and its intimate association with the same disorder in domestic animals was clearly brought to light. Tubercle had been examined by the best observers in the civilized world, who, with a remarkable unanimity, pronounced the opinion that it was so indefinite in structure that it could be recognized as much by negative as by positive qualities. But in 1882 the whole pathology underwent a great revolution by the demonstration of the life-history of the tubercle bacillus. The disease, occurring in any tissue or organ, is now universally regarded as a specific disorder, and the bacillus the cause of the morbid changes. The inheritance of constitutional peculiarities, the liability to chronic inflammations, and the susceptibility to external influences are now regarded as conditions which help the microbe to establish itself within the body. Still these factors are not less potent because the specific characters of tuberculosis have been revealed.

In 1894 the bacillus of the plague was found in the blood of a patient. As long ago as 1881 Ogston discovered micro-organisms in acute abscesses, but there are still many unsolved problems around septicemia. Ross and Manson have traced malaria to a parasite which has the power of assuming a latent condition within the human body while it is propagated outside of the human body. I refer to these facts only to show the great impulse bacteriology has given to the study of the intimate connection between the diseases of mankind and the diseases of animals. What may we

expect from this young science in the future? We are only touching the fringe of its possible revelations.

A hundred years ago the physician enjoyed both professionally and socially a far higher position than the surgeon. Medicine was regarded as a science, but the leaders of that day looked down upon operative surgery as a reproach to the healing art. John Hunter spoke of operations as only humiliating examples of the shortcomings of the medical science. It is not surprising that the knife as a remedy was greatly dreaded, and the prospect of an operation caused in many patients great mental depression. The after-treatment, too, was often extremely painful and very roughly carried out.

The idea that some agent might be found to render operations painless appears to have engaged the attention of surgeons from the earliest times. Mechanical means were employed for compressing the blood-vessels and nerves; hypnotic anesthesia was employed by some surgeons, and opium and alcohol were freely administered to relieve the distress of very painful operations, but the results were often very unsatisfactory and dangerous. Sir Humphrey Davy at length published some researches concerning nitrous oxid. Ether had been used in medicine for many years, and it enjoyed a great reputation in chest diseases. Dr. Crawford Long, of Pennsylvania tried the vapor in some minor operations about 1840. Horace Wells, a dentist of Hartford, Connecticut, and William Morton, dentist of Boston, employed ether locally for toothache, and also to relieve the pain of extraction. Subsequently Morton experimented with ether upon animals, afterwards upon some students in his class, and then upon himself. He administered it to his patients at length, and, after many careful and anxious trials with various kinds of inhalers, he privately communicated his experiences to Dr. John Collins Warren, and requested that he might be permitted to administer ether during an operation. This was successfully done, October 16, 1846.

The discovery was carried with great rapidity to all parts of America and to the central cities of Europe. On December 24, 1846, Liston in London performed amputation of the thigh under ether anesthesia with complete success. Sir James Simpson of Edinburgh (then Dr. Simpson) took up the question with great enthusiasm. He considered that ether was not free from objection because of the large quantity required to establish insensibility, and he commenced to investigate the effects of other volatile fluids. He afterward made many successful experiments with chloroform at the University of Edinburgh.

The introduction of surgical anesthesia exercised at once a great influence on the practice of surgery and the number of operations increased in all directions. Unfortunately, the surgical world was quite unprepared for the sudden outburst of enthusiasm which followed the great discovery. At this period surgical instruments were few in number and many ingenious aids to diagnosis now universal were not then in existence. The hospitals were constructed regardless of all sanitary precautions and without any means for securing adequate light and fresh air for the safe treatment of urgent surgical cases and acute diseases. The nursing system, too, was rotten to the core. Under such conditions it is not surprising that suppuration followed almost every wound, and that septic processes were started by every operation. Again and again gangrene, pyemia, and erysipelas ran through the wards of these old buildings, and the medical officers saw clearly that these outbreaks were infective disorders and were carried from one patient to another. The terrible ravages of sepsis helped to bring about better ward ventilation and improved sanitary arrangements in many of the old buildings, and these advances helped to prepare the surgical world for the coming of the great crisis when the doctrines of Lister shook the foundation and revolutionized the practice of surgery. Lord Lister demonstrated to the world the part that living organisms play in the production of septic diseases and then exhibited the simple means by which their growth and development could be prevented. During the last quarter of the century surgeons have carried out the aseptic system in every land and in every clime, and it has given a surprising impulse to successful practice, and has developed into a world-wide blessing.

I shall now conclude my remarks with a brief reference to recent progress and the work of the future. The medical profession was never so earnest in its efforts to prevent disease as it is to-day, and it is really a fortunate thing for the world that our ranks are not getting thinner. On the other hand, the people of this country generally are growing wiser and will trust less to mysterious and puffed-up remedies. I hope the day will come when every vaunted specific protected by a Government stamp will carry a label revealing the exact nature of its composition. Bacteriology has already provided the physician with a new set of remedies; in diphtheria antitoxin has proved of marked utility; the treatment of tetanus, both subcutaneous and intracerebral, appears to have been successful in some cases. As regards tuberculosis, enteric fever, and cholera we must wait the test of experience.

The serum treatment of specific disorders has only reached the initial stage, still it is full of promise. Another step forward is the discovery of the great value of the product obtained from healthy glands in the treatment of certain disorders. The special utility of thyroid-gland substance has been well established and the most marked results have been achieved by its administration. At the same time we really know nothing about the nature of its secretion which appears so essential to the nutrition of the tissues.

The close of the Nineteenth Century will be forever memorable for the great efforts which have been initiated for the prevention and cure of tuberculosis, not only in this country, but in all civilized lands, and we sincerely hope that this united attack upon our deadly and widespread enemy will be followed by enduring benefits to the race. It is a matter of great congratulation that H.R.H. the Prince of Wales is the head of the great national association which has been formed for the purpose of arresting, as far as possible, this dreadful scourge, and

that in all the leading centers men of every class are cordially cooperating in this important movement. The tubercle bacillus does not seem to care for all the physic in the world; but we believe that in a germ-free atmosphere and pure surroundings it may be made to die.

Notwithstanding the great progress of medicine during recent years the results have been less manifest than the brilliant advances of modern surgery. There is no organ or region of the body which has not been investigated by the surgeon. Only three and a half years ago the remarkable discovery of Professor Röntgen was communicated to the scientific world and it has already proved of great value in surgical practice, having revolutionized the old methods of military surgery, and given a fresh impulse to the study of diseases and deformities of the skeleton. Noteworthy advance has been made in the treatment of hernia by the development of the operation for radical cure. Hundreds of thousands have been saved from lifelong deafness by the removal of nasopharyngeal vegetations, thanks to the discoveries of Hans Wilhelm Meyer.

The experimental investigation of the causation of human septic disease is still far from complete. Up to the present time we have no cure for sepsis when it has entered the body; still we have much reason to hope that a remedy will be found, and that the destruction of sepsis-producing organisms within the blood and tissues may be at length accomplished.

The treatment of cancer and its manifold complications is another great field for inquiry in coming years. For some time a growing impression has prevailed that the disease has been steadily on the increase. No doubt during the next few years the question will be settled. Recently some investigations have been published suggesting that the disease is due to a parasite. Local irritation is certainly a great factor in the development of cancer. Other observations have suggested that the disorder is liable to recur in particular places. A curative serum for carcinoma has not yet been discovered. Up to the present time surgical treatment yields the best results, and the earlier it is adopted the better. The pathology and treatment of cancer still bristle with difficulties. It is at least some satisfaction to know that many of the best pathologists and surgeons are diligently laboring in all parts of the world to unfold the mysteries which still surround this terrible disease.

In the coming century a stronger and broader warfare will be carried on against preventable disease. I believe there is every reason to anticipate that the death-rate of the country may still be greatly reduced, and that 10 to 12 per 1000 may be the figures of the coming century. The great hindrance to the progress of preventive medicine which we have to overcome is the overcrowded and unsanitary condition of the dwellings of the working classes. This is the field on which the great battle with infectious disorders will have to be fought out. Our warfare will not be directly with microbic life, but rather with the conditions in which specific organisms are grown. We want to see more progress in getting rid of the crowded and dirty courts in every city. These denlike homes are the arch enemies of sanitary progress in all our great centers. But the battle against disease and death will only end in disappointment unless we have something more than the force of legislation and the unceasing watchfulness of a complete sanitary system. If we had the power of transforming the dwelling-houses throughout the land, and of establishing everywhere a perfect system of drainage, and of securing for all an abundant supply of pure water, we would accomplish but little without the help of the people themselves. Depend upon it, the basis of national health is the personal cultivation of health. We want the fathers of England to be the enlightened sanitary officers of their own household. We desire to see a wider knowledge of the laws of health and I hope the day is not far distant when they will be zealously taught in every school in the kingdom. The working classes have to learn that rest is essential to overcome the strain of daily labor, and that personal cleanliness, temperance, and domestic sanitation lead the way to higher blessings. The weekly rest when rightly used gives another impulse to sanitary progress. It promotes purification of the body and cleansing of the dwelling. What washings and scourings, what polishings and decorations herald its near approach! What an army of buckets and brushes and dust-disturbers are called out at its coming; what floods of clean water are made to remove the accumulations of the week! Yes; the weekly rest falls like the reviving dew on the hot brow of industry; it stops the wheels of labor; it soothes the brain, give rest to hands, and calls forth the highest aspirations of human nature.

Second General Session.

At the General Session on Wednesday, August 2d, it was decided to hold the next annual meeting of the Association at Ipswich. Dr. W. A. Elliston of that city was chosen president-elect.

Address in Medicine

was delivered by Sir Richard D. Powell.

He said in substance: Thinking over the best way in which to fulfil the task which I am honored to perform to-day, it occurred to me that it might be interesting to listen to a few remarks suggestive of the trend of medical opinion to-day.

We are certainly better equipped for exact diagnosis now than ever before, and possess a larger and a more precise knowledge of a greater number of diseases. The flexible stethoscope which has come almost exclusively into use within the last twenty years intensifies sound but practically obscures impulses. Thus the sense of touch in auscultation is, if I may use the phrase, in a certain degree becoming lost to us. I have known the diagnosis of an aneurism missed in this way.

Happily we already see a revival of the appreciation of the pulse in practical medicine; and the clinical habit of listening to the heart, not only with the view of hearing morbid sounds, but to estimate work value, is also of recent acquirement. The clinical thermometer is as important in bedside medicine to-day as the barometer and compass combined are in navigation, and where we are

sometimes led astray by pyrexial charts it is not the thermometer that is at fault but our insight that is imperfect. Not long ago the temperature mistaken for the disease was pursued round the dial by antipyretic medication and measures taken to the spoiling of the chart, the detriment of the patient, and the disappointment of the doctor. A better knowledge of the habits and vital history of the micro-organisms upon whose doings pyrexial phenomena so largely depend, informs us that their initial attack and greatest activity is at the lower ranges of temperature, and that the higher ranges, the results of such activity, are more or less inhibitive to their well-being. Thus we have often observed a pneumonia or an influenza treated too vigorously with pure antipyretics pursue an abnormally stormy and adynamic course.

The clinical study of anomalous fevers has gradually convinced us that in their development and full activity specific poisons may overlap one another in the same illness; thus the typical *crescendo* temperature of the early period of an enteric fever may be masked by the fluctuating pyrexia due to the toxin of an associated sepsis. A rational treatment of specific diseases must be guided by the recognition of these superfactors. The rational and most successful treatment of tuberculosis is for the most part unwittingly directed to attendant phenomena which are secondary, and which for brevity's sake we call septic. Our antiseptic treatment and our pure-air methods are mainly operative against such secondary infections. In the diagnosis of fevers we have auxiliary tests of modern design—some purely chemical, such as Ehrlich's, others furnished by examination with bacterial reagents, such as Widal's test in enteric fever, which are of considerable value in anomalous cases.

It must be confessed that bacteriology in its application to diagnosis and treatment in practical medicine is yet in its infancy; but it is a very robust infancy, full of promise. Bacteriology in all its departments is, and must ever remain, subject to expert investigation. It is impossible for the busy practitioner to find the time or to maintain the technical skill and apparatus necessary for trustworthy investigation, and it is to be hoped that the time will soon come when in every district throughout the country there will be in connection with the Public Health Department a bacteriological laboratory, where the ordinary, and even the extraordinary, clinical tests will be at the command of every practitioner at a moderate scale of fees.

It is a matter of congratulation to see the departments of research and clinical observation approaching to closer communion in our great hospitals, a cooperation which cannot but be to the great advantage of the physicians, and I venture to think scarcely less so to the research expert. We are thus acquiring daily a more accurate knowledge of organized poisons and we are interpreting better the phenomena they produce.

It has long been clear to every observant physician that we carry about with us in our accessible mucous tracts and especially in our naso-oral and respiratory passages, samples of the organisms specific to many diseases. We are tenanted by these varied organisms in small colonies or singly, rendered inert only through want of opportunity. Let a period of depression come over us, involving some slight change in our blood or tissue, and one or other of these organisms may receive the opportunity for aggressive cultivation. We virtually know that this is so in the case of a common cold whose bacteriology no one, so far as I am aware, has yet condescended to work out. Yet it is the type of a large number of more important diseases, and carefully investigated it would, I believe, be fruitful in side-lights upon their etiology and prophylactic treatment. There are many people of somewhat feeble vitality whose complaint is that they are constantly catching colds. Such attacks are due probably to the cultivation of successive crops of an ever-present organism. We have little power in attacking the organism; we might as well do battle with a sunbeam. Our treatment is to fortify the host.

I will only discuss the question of serum-therapeutics from the side of results achieved in the form of additions made to our therapeutics. It is already an immense achievement if we have acquired the knowledge that every infection requires a separately prepared serum for its treatment. It explains many of our failures and gives promise of adding to our successes. It has for some time been recognized that infective endocarditis has a manifold microbic pathology—streptococcus, staphylococcus, pneumococcus, gonococcus, are some of the organisms concerned. It is useless to employ an anti-streptococcus serum for a pneumococcus infection, and even the two organisms, streptococcus and staphylococcus, which seem to work most cordially in couples, require a separate treatment. We must push our diagnosis further to include a recognition of the precise organism or organisms which have obtained lodgment in any given case. We are indeed only at the dawn of serum-therapeutics and many mistakes will have to be retrieved, many apparent steps forward retraced, in the sure but slow advance in this new departure of therapeutics. Although Pane's antipneumococcic serum will protect a donkey or a rabbit from the evil consequences of a strong dose of pneumococcus infection, it has not as yet come into practical use in the human disease. I have recently tried it in two cases without result. This may be due to three causes. In the first place it is difficult to use the serum early enough in the disease, and, secondly, the most severe cases in which at present one feels disposed to try the remedy are most generally complicated with some other infection, so that the pneumococcus in the sputum does not signify the sole—perhaps not the most important—element of danger in the case. Thirdly, the doses employed by Pane have been very large, so large that one shrinks from introducing in such bulk an unknown or imperfectly accredited element into any case not already desperate. In all probability the want of success in the antitoxin treatment of erysipelas, puerperal fever, and allied affections, including infective endocarditis, may be accounted for by the presence of more than one organic infection, thus requiring, as pointed out by Behring, Pfeiffer, and Kanthack, more than one antidote.

It seems possible that we may look in the near future for considerable development of preventive serum treat-

ment in the prophylaxis of endemic diseases. Already within the past few months we have seen maturing toward successful action the researches of Haffkine and Wright and others on the means of procuring immunity from typhoid fever and plague. Indeed, the whole question of antitoxin and serum-therapeutics has only within the last five years become of practical interest to the physician, and we may expect every day to bring to light fresh developments.

It may be urged with some justice that we in this country have been behind our Continental friends in grasping the full significance from a prophylactic point of view of the discovery of a definite infective bacillus element in tuberculosis, which was made seventeen years ago and anticipated seventeen years previously. But to set heredity at naught, to regard climatic considerations as of no importance, and to state that the disease is always acquired by direct contagion or infection is, in my opinion, to ignore much that is true, and to magnify that which should be carefully guarded from exaggeration. We cannot, of course, prevent consumptive people from marrying; but the advice of the family physician should be discouraging to such alliances, which are unfortunately often prolific.

But whilst on the one hand advising every ordinary measure of cleanliness, avoidance of dust, and proper disposal and disinfection of sputum, we may, and indeed must, avoid all exaggerated statements calculated to alarm the public as to the contagion of phthisis, the evidence of which, except under the most experimental conditions alluded to, is extremely slender. It is remarkable that two at least of the most deadly of disease microbes, tetanus and anthrax, should be normal inhabitants of the soil, and yet how comparatively scarce these diseases are, and, having arisen, how communicable. It would seem that, as is the case also probably with malaria, whilst the ultimate source of the disease is vegetation in the soil, yet a greater virulence and activity is attained, and for a short time maintained, by cultivation in the human body, or in that of certain other warm-blooded animals. General sanitation and cleanliness is our first line of defense against them all. Wherever the conditions of insanitation, dampness, deficient sunlight, and the prevalence of favoring diseases are present there aggressive activity may be again looked for.

Section on Medicine.

First Day—August 2d.

The Section on Medicine was opened by the President, Dr. J. Mitchell Bruce. He confined himself to outlining the program, emphasizing, however, the importance of two topics which were to come before the members for discussion, one being the "Examination of the Men and Boys Who Were Admitted into the Services," and the other the "Preventive and Remedial Treatment of Tuberculosis." The former was peculiarly appropriate for discussion in Portsmouth, and the latter would be full of interest on account of the numerous winter health-resorts in Great Britain, and because of the number of well-qualified speakers who were to take part in the discussion.

In the absence of Sir Dyce Duckworth, the president read his opening contribution to a discussion of the medical tests required at present for admission to the public services. The factors of the eligibility of candidates, both on account of physique and the power to pass examinations, were generally discussed and the causes of the rejection of defective candidates reviewed.

Professor Osler, who followed, said that the physical examination of candidates should take place earlier in the course of their training, and alluded to the presence of a cardio-respiratory murmur, a pulmonary systolic murmur, and adolescent albuminuria as more common causes of their unnecessary rejection.

Surgeon-General Muir and Surgeon-General Cuffe spoke of the question from the military side, and on the whole supported the *status quo;* while Surgeon-Colonel Welch thought that the most suitable men were not obtained for the army on account of the literary requirements. The President suggested that the following resolutions should be sent up to the Council, requesting that they be submitted to the War Office: "That the physical examination should precede the educational; that soldiers should not serve in the tropics until twenty-two years of age, and that the question of the physical standard required reconsideration." These resolutions were unanimously adopted.

Section on Surgery.

First Day—August 2d.

The Sectional work was opened by the President, Mr. H. T. Butlin, who outlined the subjects for discussion, calling especial attention to the importance of gunshot wounds in civil life and to the high percentage of soldiers who are disabled from duty on account of venereal disease.

An opening paper on

The Diagnosis and Treatment of Gunshot Wounds of the Abdomen

was read by Colonel Stevenson, Professor of Military Surgery at Netley. Civil practice had been freed from the dread of interference with a serous membrane. Military surgeons had been slower in recognizing the capability of modern surgery in cases of gunshot wound of the abdomen, and for the following reasons: The procedures must be carried out in field-hospitals; the personnel of these hospitals was kept as low as possible; the work done in them was performed at high pressure; wounded men were often left on the field of battle a long time before being picked up, and the military surgeon's mind was influenced by the feeling of the "greatest good to the greatest number." When patients were healed by rest and opium, the cures were probably not more than 1 per cent. of those diagnosed. When a bullet traversed the abdomen it might be assumed that either extravasation of intestinal contents or hemorrhage, or both, had occurred.

A fatal issue was certain in either. The indication was quite distinct; the abdomen must be opened, the intestines sutured, and the peritoneum cleansed. The symptoms of hemorrhage and of extravasation of intestinal contents were analyzed and discussed. Hemorrhage results from the following injuries, in point of frequency: Rupture of the liver, spleen, kidneys, small intestines, and large intestine. The symptoms of extravasation are misleading, irregular, and inconstant. The onset of sudden meteorism, upon which so much stress had been laid was considered of no value. The absence of liver dulness might be observed when no rupture of intestine had occurred, and liver dulness might be present when there was much free gas in the peritoneal cavity. The results in recent campaigns were mentioned. In the Spanish-American war all patients operated on died. In the Græco-Turkish war 1 case of hemorrhage, and 1 of injury to the liver terminated in recovery, 1 of wound of hollow viscera in death. In the Tirah campaign 5 patients were operated on and all died. The statistics of Morton of Philadelphia were more encouraging. In 234 cases occurring in Europe and America, the mortality was 58.9 per cent. Coley's statistics showed a death-rate of 53.9 per cent. if operation was performed within twelve hours, and 77.3 per cent. if performed after twelve hours. When a wound of the intestine was found it was best treated by (1) simple suture in two layers, one for the mucous membrane and one for the peritoneum; (2) the method of Maunsell; (3) Murphy's button.

Dr. Ward Cousins pointed out that the chances of success depended on early operation as soon as the diagnosis of internal injury had been made out. The diagnosis was not always easy. Perforation with very little extravasation might not cause urgent symptoms; on the other hand, severe contusion of the abdominal wall might be followed by great collapse. Every case must be left to the judgment of the surgeon. When operation is performed it is best to enlarge the wound of entrance and to use as retractors stitches passed through the edge of the wound and held by assistants. The methods of treatment he preferred were simple suture by fine silk and the Murphy button.

Major W. C. Beevor quoted the experience of Colonel Whitehead and himself in the Tirah campaign. The number of the wounded was very large; all water within access was contaminated by the urine and feces of men and animals. He quoted cases showing the enormous difficulties in the way of carrying out adequate treatment. He drew attention to the enormous advantage obtained in the treatment of collapse, by the preliminary irrigation of the peritoneal cavity.

Surgeon-General O'Dwyer expressed the belief that operation on the field of battle was impracticable. Unless patients could be dealt with as in civil life it is better not to operate.

In reply Colonel Stevenson regretted that in the Tirah campaign the conditions did not approximate to those existing in civil life, but felt sure that with the new equipment the measures suggested as being necessary for the adequate treatment could be efficiently carried out.

Section on Obstetrics and Gynecology.

First Day—August 2d.

The President, Dr. G. Granville Bantock, made a plea for conservative work. He said that he had viewed with much concern a growing tendency to resort too quickly to the knife; in other words, a *cacœthes operandi*. There should be greater reliance upon measures of a more simple and conservative character. He mentioned several instances that showed the bad results of too hasty operation.

The discussion was opened by Dr. Herbert Spencer, who read a paper on

The Treatment of Fever following Delivery, with Special Reference to Serum-Therapy.

Dr. Spencer distinguished four groups of fever following delivery; the first, often called "one-day fever," due to emotion, copremia, or other transitory cause; the second, due to complications which are not referable to the labor, including such febrile affections as influenza, scarlet fever, acute phthisis, and typhoid fever; the third, due to infection from preexisting pelvic lesions, such as pyosalpinx, appendicitis, etc.; the fourth, due to external infection, "puerperal fever," as we understand the term. Recent observations have shown that puerperal fever may have its origin in a number of micro-organisms; thus Whitridge Williams, among twenty-six cases, found streptococci, staphylococci, colon bacilli, gonococci, anaerobic bacilli, diphtheria bacilli, gas bacilli, and typhoid bacilli. In discussing the prophylaxis of puerperal fever, Dr. Spencer expressed the opinion that it is not necessary for a medical man to abstain from practice when attending such cases, as thorough disinfection will immediately enable him to attend other women with safety. After dealing with the question of local and operative treatment, the speaker pointed out the methods of remotely influencing puerperal fever, such as the nuclein treatment, saline infusion into the cellular tissue, and intravenous injection of antiseptics. Coming to the serum treatment, it was pointed out that a large number of observations had now been made upon its use, over 350 cases having been collected by a committee of the American Gynecological Society, and among these cases there was a mortality of thirty-three per cent. Probably the natural mortality was not greater than this. The conclusions to which Dr. Spencer had arrived were: (1) That as usually applied serum-therapy in the treatment of puerperal fever has no scientific basis; (2) that it has not lowered the mortality; (3) that it usually lowers the temperature and sometimes improves the general condition; (4) that its use is not free from danger.

Section on State Medicine.

First Day—August 2d.

The Presidential Address in this section was delivered by Dr. George Wilson who spoke with great frankness on the relations of bacterial research and methods of treatment to preventive medicine. He began by saying

that Pasteur's prophylactic inoculations are based on errors, and are the the outcome of illogical inductions, every one of them. The indiscriminate maiming and slaughtering of animal life with which these bacteriologic methods of reseach and experimentation have been inseparably associated cannot be proved to have saved one human life or to have lessened in any appreciable degree the load of human suffering.

There are certain infectious diseases one attack of which protects, as a rule, against any future attack. This can be more emphatically said of smallpox than of any other disease. That is why inoculation was practised for a time, and was so successful as far as the individual was concerned. Jenner concluded that if he inoculated with the matter contained in the vesicles of cow-pox instead of with smallpox matter he might be able to confer immunity against smallpox. He made the further discovery that he could confer immunity from smallpox by vaccinating from person to person. He made it clear that cowpox or vaccinia was a modified form of smallpox. Vaccination, therefore, induces vaccinia and vaccinia protects against smallpox because it is a modified form of the disease. Unlike smallpox itself it does not confer absolute immunity, as Jenner imagined it would. It only confers a modified degree of protection against smallpox because vaccinia is only a modified form of the disease itself by transmission of the virus through the cow or calf.

It has been admitted by Pasteur, Koch, and all of their followers that their methods of prophylaxis and cure are based on Jenner's happy inductive inspiration. In the first place, bacteriologists have failed to discover any pathogenic microbe either of smallpox or vaccinia which they can isolate with certainty. The few pathogenic microbes which bacteriologists have discovered associated with human disease, and which they can isolate and cultivate, are those of tuberculosis, diphtheria, enteric fever, cholera, and plague; but all these are found associated with necrosed tissues, and it is open to argument whether, instead of being labeled the unconditioned *causæ* of those respective diseases, they may not be performing a benign function in changing the necrosed tissues into harmless products, just as various kinds of micro organisms are necessary to change filth and all dead organic matter into harmless matter. Then, again, vaccine lymph must be taken from the vesicle at a certain stage of development. When successfully used, as in vaccination, it is followed by manifestations of a definite disease known as vaccinia, with a well-defined incubation period and well-defined and characteristic symptoms—a varying amount of pyrexia, tumefaction at the point of vaccination—the vesicular and pustular stage.

In contradistinction to these facts, the serum of an immunized animal confers at the utmost only a doubtful and short lived immunity so doubtful as to be discarded altogether, and as a cure for smallpox it is of still more questionable efficacy. It was on these grounds that the speaker reiterated his statement that there is no legitimate analogy between Jenner's great discovery and these newer methods of prophylaxis or cure which are based on that discovery.

The medical profession has misled the public as to the cruelties and horrors which are perpetrated on animal life. No one who knows Lord Lister could accuse him of wilful misrepresentation, but when he stated, as he did in his speech at the opening of the bacteriological laboratory in Liverpool last year, that the actual pain involved in these experiments is commonly of the most trifling description he was guilty of a *suppressio veri* of the most palpable kind which could only be accounted for at the time by his ignorance of the actual facts. Admitting that in the mere operation of injecting a virus, whether cultivated or not, there may be little or no pain, the cruelty lies in the after-effects. The animal so innocently operated on may have to live days, weeks, or months with no anesthetic to assuage its sufferings and nothing but death to relieve.

And what triumphs has bacteriology achieved in stemming the tide of human disease on these empirical lines? Pasteur's antirabic vaccination is, as many believe, a delusion. Koch's tuberculin cure for phthisis has long since been labeled as worse than worthless. As a test even for bovine tuberculosis tuberculin possesses only a secondary and not a specific value. The much-vaunted antitoxin cure for diphtheria does not command the universal approval of even the physicians of the metropolitan fever hospitals. The serums used for the treatment of other diseases—such as the pneumococcic serum, the serum used for puerperal fever, and Sanarelli's serum for the cure of yellow fever—are all of them allowed to slip into the lap of forgetfulness.

The bacteriologist so dominates the public press that we almost seem to live in a bacillus stricken world. And so far as preventive medicine is concerned bacteriology has rather led us on false lines in assuming that the pathogenic microbe of any disease is the *causa causans* of that disease. We know that there are certain diseases which are notoriously infectious, therefore we isolate. We know that there are others which breed on filth, therefore we say be clean and insist on cleanliness of house and home, of the water we drink, of the food we eat, and of the air we breathe. Bacteriology has assisted, and largely assisted, preventive efforts at disinfection, isolation, and so on, but it can never confer immunity against disease except by using minimal doses of the virus of that disease, and that virus to be effectual can only be cultivated and bred in the living body, not cultivated artificially in organic media. We can only fight phthisis on the old lines, by improving heritage when that is possible, by improving the homes and conditions of life and labor which are always possible and always call loudly for interference, but this hunt after the tubercle bacillus is the insanest crusade ever instituted on illogical lines. The physician can never cure, he can only direct and assist Nature in eliminating the *materies morbi*, whatever it may be.

The whole of bacteriological theory and practice is steeped with commercial interests. Behring has patented his diphtheria antitoxic serum on the Continent; Koch for years has made a princely royalty out of his tuberculin. Little Denmark has boomed her butter trade through tuberculin. Why is Germany crowding itself with sana-

toria for consumptives? Just because Germany in 1889 passed an Act that every German with an income of £150 or less must insure against sickness or old age. Last year the number of Germans so insured amounted to over 11,000,000, and these insurance societies, to save their coffers, and receive their insurance subscriptions so long as they can, start these sanatoria in self-protection. That may be a great argument for the establishment of sanatoria, but it is also a great argument for the establishment of thrifty German ways.

Dr. E. Seaton introduced a discussion on

RECENT VACCINATION LEGISLATION AND THE PREVENTION OF SMALLPOX.

In every case, he urged, there should be a report as to vesiculation and marks. Medical officers of health were, of course, anxious to isolate the earliest cases of smallpox, for which there should be suitable hospital accommodations, one of the most urgent needs of the present day.

Dr. C. R. Drysdale thought the compromise of last year had satisfied very few people. The German Government had entirely eradicated smallpox since 1876, when the compulsory vaccination of infants and the revaccination of children aged 12 was enacted, and recommended that this admirable system should be adopted as soon as possible in the United Kingdom. Dr. Groves said that the Act of last year had caused a great awakening in the minds of members of the profession, especially of the public vaccinators, who now took hygienic precautions with respect to the patient and the patient's dwelling. The difficulty of the private practitioner in obtaining lymph is great; the Local Government Board now refuses to supply him with lymph. We could not in this country obtain that absolute protection against smallpox which exists in Germany until revaccination at adolescence is rendered compulsory. Mr. H. May said the present Act is good in that it is increasing the number of vaccinations and the fees of vaccinators, and has undermined the position of the antivaccinators.

Dr. Sinclair Holden was of the opinion that glycerinated calf lymph deteriorates during the hot weather.

Section on Tropical Diseases.

First Day—August 2d.

George Thin, the president, in his opening address discussed the mosquito theory of malaria, and the establishment, in England, of two new schools of tropical diseases. He said in part: The causation of malarial fever by insects was referred to by Nott in 1848 at New Orleans as something already known, while in 1883 King published in America an excellent exposition of the mosquito theory. This theory was again suggested by Laveran in 1891, and also by Flügge in the same year. In 1894 Manson brought this problem prominently before medical men in this country, and urged that a mosquito theory was the best calculated to explain the various conditions of the problem. His suggestion was that the female mosquito fills herself with infected blood, lays her eggs some days later, and dies beside them. The water then becomes contaminated with the spores of the parasite of malaria, through which they might be taken into the human body, or might be breathed in the dust of dried-up pools, or the larvæ coming out of the eggs might eat it with the body of the mother; or the ground might become infected by mosquitoes containing the parasite falling and dying on it. King, Laveran, Bignami, Mendini, and Koch, on the other hand, considered that the infection is conveyed by the direct bite of the mosquito. Other observers have mentioned conditions which seemed to render a mosquito theory improbable. It was pointed out to me, for example, during a visit I paid to Sicily a few years ago, that a very narrow line separated the fever from the free-fever zone, whilst mosquitoes prevailed equally in both. Ross' discoveries at once and forever removed these objections. From the time he showed that to inoculate sparrows with proteosoma by the medium of the mosquito a special mosquito was necessary, it was evident that the next thing to do was to discover whether some particular genus or species of mosquito was the host of the parasite of malaria, and in August, 1897, Ross, when examining two "dappled-winged" mosquitoes which had been fed on a patient who had crescents in his blood found in the middle intestine certain round bodies which contained malarial pigment and which he rightly regarded as a development of the parasite.

While Ross was working in Calcutta with proteosoma, Grassi, during the summer of 1898, made an exhaustive study of the mosquitoes that prevail in different parts of Italy, and he found that there were many places where culex pipiens, the predominating mosquito, was common, but in which there was no indigenous malaria; whilst in places where malaria occurs he found a large mosquito, called by zoologists anopheles claviger. This species, characterized by four spots on the wings arranged like a capital T, may, he says, be defined as the true talebearer of the presence of malaria. Anopheles claviger bites sometimes during the day and night, but mostly half an hour before and half an hour after sunset.

Bignami's, first experiments in support of his theory of the direct inoculation of malaria by mosquito bites were made in 1894. The results were negative. Other experiments in 1898 also had a negative result; but guided by Grassi's information, mosquitoes were first brought on the 10th of last October from Maccarese, where fever prevailed, and were identified by Grassi as culex pencillaris, culex malariæ, and anopheles. During the last days of October the subject of the experiment began to suffer from symptoms of fever, which developed in an unmistakable manner on November 1st, and was cured on November 3rd by hypodermic injections of quinin. By November 7th the patient was perfectly free from fever, and rapidly regained his appetite and strength. On November 2d the blood carefully examined gave a negative result. On the 3d a few young ring shaped parasites, moving or discoid, without pigment, with characteristic appearances of the summer-autumn fevers, were found, increasing in the course of the day and being very numerous in the afternoon, when very fine granules of pigment were found on the edge. Dried and stained prepa-

rations showed the characteristic appearances of the parasite. In the district in Rome in which the experiment was carried out there had not been a case of spontaneous fever within the memory of medical men, the center of Rome being absolutely free from fever. The type of fever was that which prevailed at Maccarese, from whence the mosquitoes were brought. This result has since been amply confirmed by further experiments by Bignami and Bastianelli, and it has now been conclusively shown that anopheles may be made to bite a man suffering from malarial fever, and if then kept at a proper temperature (30 C) for the requisite number of days to allow the sporozoites to be present in the salivary glands, and then made to bite a healthy man who is free from malarial fever this man will, after the regular incubation period, develop malaria, and it is important to note that the parasite so conveyed from man to man through the mosquito retains its specific type. It further results from their experiments that very few bites are sufficient to convey fever; probably a single one sufficing. What is important is the species of mosquito and the stage of development of the parasite in its body. The process of development is the same as that observed and described by Ross in the proteosoma of the gray mosquito, and is common in many sporozoa. It consists essentially of increase of volume, accompanied by capsulation, which ends on the sixth day by division of the cell contents into very numerous small nuclei around which a little protoplasm is arranged, leaving a *nucleus de reliquat.* In tertain fevers it is the mature non-sporulating forms which develop in anopheles, the body of the parasite being paler, less refractive, and a little larger at the same stage of development, as compared with the crescent. The pigment is less in quantity and finer. The first phases of life in the intestine of the mosquito thus show a distinction between the crescent and tertain. The full-grown capsulated parasite is about seventy micromillimeters in size.

The discoveries of Kilburn and Smith, by which it was shown that the hematozoon which causes the Texas fever of cattle is transmitted from the tick, which is its temporary host to a second generation of ticks, by which it is again conveyed to cattle—the resemblance between the hematozoon of Texas fever and the human malarial parasite being so great that the proof that the one was conveyed by an insect was considered almost a proof that human malaria must be similarly conveyed even before it had been demonstrated that it is so—rendered it necessary to investigate whether in anopheles also the parasite is transmitted from parent to offspring. The Italian observers have, therefore, made a diligent examination of this question. So far (up to May 7th) all these experiments had been negative, and up to that date only those anopheles that had bitten human beings suffering from malaria had been shown to be capable of propagating the disease.

It will be seen from what I have related that the habits of anopheles claviger are matters of enormous importance to the human race. These insects pass the winter in human habitations and during this period their habits of migration are so much in abeyance that, although the anopheles in the dwelling-houses are found charged with human blood and contain the hematozoa of malaria, those in the adjoining stables and hen-houses do not contain the parasite. This has, of course, an important bearing on the question of prophylaxis. The genus anopheles has the palpi in both sexes about the same length as the proboscis. Five species of anopheles have been admitted for Europe. The first three without spots on the wings, are A. bifurcatus, A. villosus, and A. nigripes. The remaining two have the wings spotted—anopheles claviger (maculipennis) and A. pictus. Ficalbi thinks it is possible that the first three belong to one species. Grassi, Bignami, and Bastianelli have now extended their investigation to all the species of anopheles and have found that the parasite of malaria develops in all of them, although for Italy A. claviger is by far the most important. The anopheles claviger is widely diffused in Europe. It occurs in Scandinavia, Austria, Germany, Russia, Italy, and England. No fewer than seven species of anopheles are described as existing in the United States. Amongst them are A. punctipennis, A. claviger, and A. nigripes.

This year has seen the establishment of schools for tropical medicine in Great Britain, of which the interest and importance will, I hope, not be confined to these islands. The material requisite for the study of tropical diseases has been long utilized for the training of army surgeons, but not for civilian medical men destined to practice in the tropics. That this movement will not only be sustained, but that its scope will be largely increased, seems to me a matter of certainty. Two schools have been established, one in London at the Seamen's Hospital, and another at Liverpool, and we may confidently expect excellent work from both. But if we take into account the number of patients suffering from tropical diseases, and the opportunities of clinical study and experience, the great military hospital at Netley stands out prominently as offering conspicuous advantages with which London and Liverpool cannot compare. This school was organized and opened in 1860. If we look at the figures given in the reports of all three hospitals, it is evident that while Liverpool and Netley afford excellent schools for the study of malarial fevers, and that at Greenwich there is clearly a sufficient number of cases to enable the main features of the diseases to be studied, for the study of dysentery Netley and Greenwich afford the only available supplies, while the material at Netley far outnumbers that at Greenwich; and when we come to the most important diseases as hepatic abscess and hepatitis, in which clinical instruction is of so much importance, Netley appears to be the only school in this country in which adequate instruction can be given. The prevalence of these diseases among the civilian population in the tropics, the mortality and ill-health which they cause, and the frequent difficulty of diagnosis and treatment, render it a matter of the greatest consequence that medical men who are called on to deal with them should have instruction in a large hospital where there are groups of cases, and as Netley appears to be the only school in this country in which sufficient material for the study of

hepatic abscess and hepatitis occurs, a course there ought to be considered indispensable to every medical man who wishes or is obliged to thoroughly equip himself for tropical practice.

Whether the authorities could be brought to consider such a startling proposal as opening a military hospital to civilian practitioners I do not know. Innovations of this kind are too apt to be met with a *non possumus*, and certainly there is no precedent; but it is difficult to believe that an application for permission on behalf of medical men appointed or to be appointed to the Colonial Service would be met by a refusal. This great hospital, so long as the unfortunate supply of sick soldiers continues, is fitted to become a center of clinical instruction in tropical diseases not only for England, but for Europe.

The address led at once to a discussion of the advisability of requesting the Government to open its military school at Netley to civil practitioners for the study of tropical diseases. A number of remarks were made on both sides of the question, but a majority of those voting decided that it was inadvisable to press the matter at present, as the Government had recently lent its support to the two civil schools just opened.

Dr. G. H. F. Nuttall of Cambridge read an important and eminently scientific paper on

THE ROLE OF INSECTS, ARACHNIDS AND MYRIAPODS, IN THE SPREAD OF DISEASES DUE TO PARASITES.

After referring to the brilliant researches of Ross, Grassi, Bignami, and Bastianelli in the part played by insects in the distribution of disease, he proceeded to consider the passive and active parts played by insects as carriers of pathogenic organisms. As passive carriers the common fly is held to be the chief offender. Although unable to bite they may, from the character of their food or by their dejecta, spread several diseases — anthrax, plague, cholera, typhoid, frambosia, Egyptian ophthalmia, and Florida sore eye are capable of being thus dispersed, and experimental research has ascribed to pediculi a similar *rôle*. The evidence as to the active agency of insects was more negative. In fact, experiments made by the writer, some 250 in number, in reference to the part played in plague, anthrax, mouse septicemia, and chicken cholera, all gave negative results. In a large number of experiments made by allowing these insects to bite animals dying of the diseases named, and immediately afterward transferring them to healthy animals, not a single case of infection occurred. As regards the spread of animal parasites by insects, arachnids, and myriapods, Dr. Nuttall again considered their active and passive bearing. While serving as intermediary hosts, insects may perform a passive *rôle*, as when they are devoured by a host of the parasite they contain; and, again, an active *rôle*, when as in the case of the tick in Texas fever and malarial fever, they inoculate the parasite into a host by means of their probosces. On the other hand, insects, etc., without serving as intermediate hosts may serve as active and passive agents. As examples of their active *rôle* he cited the tsetse-fly disease, in which the infective agent is carried from one animal to another, and inoculation of the parasite itself takes place. Insects, etc., probably play a passive *rôle* in the distribution of animal parasites by the transportation of the eggs and their deposition in food, etc. As examples of this form of propagation he mentioned flies transporting eggs of tænia solium, trichocephalus, etc. Dr. Nuttall concluded by saying that in bacteriological studies what is required is more thorough work and less general theory. By microscopical specimens, photographs, and lantern-slides he showed the development of the malarial parasite.

Dr. Patrick Manson read a paper on

FILARIAL PERIODICITY.

He dwelt chiefly on the question of what becomes of the filaria during the day. In answer to this question he was able to record the results of a post-mortem examination held in February, 1897. The cadaver had been known to be the subject of filaria nocturna, and death had taken place at 8.30 A.M. (by suicide)—that is to say, just about the time the filaria had retired from the peripheral circulation for the day. Seventeen adult filaria Bancrofti were found in an enormous lymphatic varix in the pelvis. By microscopic examination of the blood it was proved that the pulmonary veins, the pulmonary arteries, the lungs and blood-clots in the heart and aorta contained swarms of embryos. The brachial vena comites, the liver, and spleen contained but few filariæ, whilst in the bone marrow filariæ were absent. Dr. Manson could not supply any explanation of how these parasites maintain themselves in the arterial blood stream of the carotid or aorta. The facts seemed to point to the existence of some physiological product, the outcome of the activities of waking life, which either drives filaria nocturna from the surface of the body during the day, or attracts it to larger arteries during the night. What this substance may be it is for the physiologist to say.

Section on Laryngology and Otology.

First Day—August 2d.

At the opening of the Section the President, E. Cresswell Baber, reviewed the progress made in laryngology during the past thirty years. He mentioned the important discoveries of Meyer of Copenhagen, who, in 1869, read a paper in London on adenoid vegetations. In 1859, Markusovsky invented the speculum bearing his name. The real advance in anterior rhinoscopy was due more to the use of light reflected from a mirror with a central perforation than to any special form of speculum. The speaker also gave credit to Zuckerkandl for his work on the normal and pathological anatomy of the nose and its sinuses; to Hack for his study of reflex nasal neuroses; to Middledorpf for his invention of the galvanic cautery; to Jellinek for his introduction of cocain into nasal surgery, and to Litchtwitz for his work in chronic empyema. He also spoke of the general recognition of the importance of nasal respiration as one of the fruits of modern rhinology, and said that such progress in the past ought to encourage the workers in this department in their future labor.

Dr. Piéne Lacroix of Paris showed an apparatus for the application of medicated vapors to the upper air tract. Formalin and menthol had yielded him good results in the treatment of tuberculous laryngitis, and he described experiments showing that the vapor inhibited the development of pus cocci and tubercle bacilli.

Dr. Bronner read a paper on

THE USE OF FORMALIN IN ATROPHIC RHINITIS.

He said he stopped short of strengths that caused irritation, using for irrigation a 1 in 1000 or 1 in 2000 solution, though for a coarse spray a rather stronger solution may be employed.

The President, Dr. Snow of Syracuse, U. S. A., and Dr. Pegler described cases in which symptoms of Graves' disease had either supervened upon nasal operations or had been benefited by intranasal treatment.

Dp. Dundas Grant read a paper on

SOME FORMS OF LARYNGITIS CONSEQUENT ON PURULENT AFFECTIONS OF THE NOSE.

He referred to sphenoidal and posterior ethmoidal empyema, and ozena laryngis, describing the macerated aspect and inter-arytenoid swelling, and giving the differential diagnosis from phthisis and syphilis, and the relation to pachyderma.

Dr. Louis Bar of Nice read a paper on

THE DIAGNOSIS OF CHRONIC FRONTAL SINUS EMPYEMA, AND MALIGNANT TUMORS OF THE NASAL FOSSÆ,

emphasizing particularly the impossibility in many cases of ascertaining the cause without exposing the sinus by external operation.

Section on Diseases of Children.

First Day—August 2d.

The President, Mr. Edmond Owen, delivered an address on

UNUNITED FRACTURES IN CHILDHOOD.

He cited a number of authors to prove the frequent occurrence of non union after fracture of the tibia and fibula in children. Operation for this lesion is usually unsuccessful. Non-union in adults is generally due to want of rest, and this may play its part in the non-union of childhood; but the trouble seemed rather to the speaker to be an atrophic one and he suggested that there is some subtle disturbance in the anterior horn of the cord interfering with the nutrition of the bone and rendering it weak and friable and subsequently interfering with its repair. He asked whether any one present had ever established consolidation in the ununited tibia of a child. For his part, he had never succeeded in such an attempt.

Mr. Tubby thought that soft bones are not proper objects for the operations of osteotomy or osteoclasis. He had observed acute fatty degeneration in an old-standing case.

Dr. Maguire opened the discussion on the treatment of pleuritic effusions in children from a medical point of view, including under this heading the operation of simple puncture and aspiration. Treatment was discussed in relation to such questions as the positive tension and resiliency of the thorax, the character and quantity of the fluid, displacement of the heart and abdominal viscera, and the general state of the patient.

Section on Pharmacology and Therapeutics.

First Day—August 2d.

Upon opening the Section, Dr. J. B. Bradbury spoke a few words on the place of pharmacology in the medical curriculum. He regretted very much the growing tendency of most medical schools to require from candidates for diplomas less and less knowledge of the natural history, properties, composition, and action of drugs. While he had no wish to revert to the state of affairs when candidates were expected to have a minute knowledge of the distinctions between the different species of senna, for example, he thought that it is most important that all candidates should be thoroughly acquainted with the different remedies which they are going to prescribe.

A paper on

HEADACHES AND THEIR TREATMENT,

by Dr. T. Lauder Brunton, contained a quantity of interesting information, and brought out the connection of cerebral vasomotor disturbances and toxemia with the majority of headaches not due to local causes.

In the course of the discussion Dr. Dundas Grant pointed out the frequency of nasal troubles as a cause of headache, while Professor Clifford Allbutt was disinclined to attach much importance to vasomotor disturbances. Dr. Harry Campbell dwelt on headaches of syphilitic origin, and recommended the administration of dram doses of iodid of potassium, smaller doses often being insufficient to modify this specific disease. Both he and Dr. J. W. Tyson dwelt on climate as a factor in the production of headaches, while Dr. Herschell referred to over-distention and dilatation of the stomach as frequently associated with headache. On the other hand, Dr. Pope referred to those numerous cases in which headache resulted from an empty stomach. These he attributed to a liver which soon ceases to secrete bile after the taking of a meal. Dr. St. Clair Thomson had often found headache in association with chronic ear disease. Dr. Sarat K. Mullick referred to tropical diseases in connection with headache, and Dr. Masters, speaking from his own experience, agreed with Dr. Brunton as to the vasomotor disturbances present in many forms of headache. The president quoted instances in which smoking had proved beneficial, while Dr. Duffan referred to a variety which he has observed in coal-mine workers.

Dr. Brunton, in replying, mentioned that altitudes and depths probably produced headaches by altering the atmospheric pressure in the sinuses.

REVIEWS.

Injuries and Surgical Diseases of the Face, Mouth and Jaw. By John Sayre Marshall, M.D., Former Professor of Dental Pathology and Oral Surgery, and Emeritus Professor of Oral Surgery, in the Dental Department of Northwestern University. Philadelphia: The S. S. White Co.

The author's plea for the creation of this work is that no text-book on this collateral branch of surgery is adapted to the recitation system of teaching. To attain this end the volume has been so written that each chapter ends with a number of questions reviewing the topics discussed therein. One must regret the introduction of such a plan into a text-book whose dignity cannot but be impaired thereby. Such elementary methods had best be reserved for quiz-compends.

In substance the ground is well covered, yet by being more exclusive the representative features, reflecting the author's individual experience, would not be so obscured, and the authoritative remarks would have come to the fore. Aside from the excellent illustrations there is nothing distinctively meritorious in the work to commend it to physicians who have numerous books on general surgery admirably covering the same ground; this volume, however, is deserving of a hearty welcome by students of dentistry, for whom it seems to be intended.

A System of Medicine. By many writers. Edited by Thomas Clifford Allbutt, M.D., LL.D., Regius Professor of Physic in the University of Cambridge. Volume VI. New York: The Macmillan Company, 1899.

The sixth volume of Allbutt's system of medicine deals with the diseases of the circulatory and nervous systems, the former being continued from the previous volume. Among the contributors is Dr. William H. Welch, who has written two scholarly articles on thrombosis and embolism. The diseases of the muscles are considered in four chapters under the heads of myositis, myotonia congenita, idiopathic atrophy, hypertrophy and facial hemiatrophy, and hemihypertrophy. Dr. Bevan Lewis opens the series of articles on the nervous system in a consideration of its general pathology. The trophoneuroses are next discussed, then the diseases of the nerves, and finally the diseases of the spine.

This volume of the system does not differ from its predecessors in its general excellence. The value of the work is, indeed, enhanced by some of the monographs contained in the book under discussion. We are not acquainted with any system its superior in scientific or literary excellence.

Transactions of the American Dermatological Association. Twenty-second Annual Meeting, held in Princeton, N. J., May 31 and June 1, and in New York City, June 2, 1898. Concord, N. H.: The Rumford Press, 1899.

Those interested in diseases of the skin will find many valuable papers in the *Transactions* of 1898. To review the important papers in detail would mean to review nearly all of those read. A valuable contribution is the one by Gilchrist on the question of malignant growths arising from pigmented moles. These are usually regarded as sarcomatous in nature, but Gilchrist agrees with Unna, who was the first to oppose this view in 1892, that they arise from the rete layer of the epidermis and not from endothelial or connective-tissue cells, and hence should be classed with the carcinomata. Some excellent drawings by the author show the histologic features very clearly and seem to confirm this view.

Text-book of Ophthalmology. By Dr. Ernst Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized Translation. Revised from the Seventh German edition. By A. Duane, M.D., Assistant-surgeon in the Ophthalmic and Aural Institute, New York. Illustrated. Second American edition. New York: D. Appleton & Co., 1899.

Since the first edition of this book was published five German editions have been issued, and Fuch's work is accepted as the model ophthalmological text-book in matter as well as in presentation. The data are selected and presented with such judgment and care, the information is so complete and fresh, the scientific analysis so precise that the most abstruse chapters are simplified and made intelligible. Much of the pleasure derived from reading this book depends upon the fact that the author has everywhere substituted the results of experience, mainly personal, for the customary theoretical deductions or traditions, while the whole subject matter is illustrated by a style which is as graceful as it is clear and simple. In this regard the English version is fully worthy of the original, and the translator is to be congratulated on the felicitous manner in which he has accomplished his task.

The second American edition represents an essentially improved form of work which has already proved valuable. It bears everywhere the marks of thorough revision, of additions, and corrections, notably in the sections on functional examination, the pathology of corneal and conjunctival diseases (especially the parts relating to ulcus serpens and diphtheria), and the diseases of the fundus. The translator has added a short chapter on the subject of heterophoria, judging that the presentation by Professor Fuchs, while admirable in point of matter and lucidity, might appear too brief to many readers in this country, where so much attention is given to muscular anomalies. Another section inserted deals with the use of homatropin and other cycloplegics, and the general subject of the correction of refractive errors. The book is thoroughly abreast of the times, and presents an excellent summary of ophthalmological science as we know it to-day.

Regulations for the Guidance of Surgeons in the Medical Examination of Recruits for the Connecticut National Guard. Middletown, Conn.: Pelton & King, 1899.

This little volume has been prepared by Brigadier-General J. Francis Calef, Surgeon-General, C. N. G. It con

tains besides general instructions to examining surgeons, an enumeration of the conditions exempting from military duty and of disqualifications for service in regular and in State regiments. Test-types for determining the vision of recruits accompany the volume, and the text of the Geneva Convention is appended.

HAY-FEVER AND ITS SUCCESSFUL TREATMENT. By W. C. HOLLOPETER, A.M., M.D., Clinical Professor of Pediatrics in the Medico-Chirurgical College of Philadelphia. Second edition. Philadelphia: P. Blakiston's Sons & Co., 1899.

THE call for a second edition of this little monograph within a year is evidence of the widespread interest taken in the subject-matter, as well as of the practical excellence of the work itself. The thorough clinical study of hay-fever, and the exhaustive review of the literature devoted to it, are again presented, while the author has revised and enlarged the text so as to include the special treatment of each of the various types of hay-fever cases. The bibliographic section is made to include the most recent publications, and the work is a complete presentment of a most important topic.

LABORATORY WORK IN BACTERIOLOGY. By FREDERICK G. NOVY, SC.D., M.D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. Second edition. Revised and enlarged. Ann Arbor: George Wahr, 1899.

THIS work is not offered as a complete text-book of bacteriology, still it contains a vast amount of important matter on the subject, and is admirably arranged as a working guide for the student. The present edition is a work of nearly 600 pages, divided into fifteen chapters, and contains many illustrations, most of which deal with the apparatus necessary in laboratory technic. Illustration of the growth and appearances of the various bacteria have been omitted purposely, and the book is interleaved with blank pages, so that the student may draw what he observes.

We note with particular satisfaction that great care has been given to those minute details in technic that are so important to every beginner, and that are so frequently missing in the ordinary books on the subject, and can heartily commend the work as a safe guide to all students interested in this important science.

THE TREATMENT OF DISEASE BY PHYSICAL METHODS. By THOMAS STRETCH DOWSE, M.D., Abd., F.R.C.P., Edin., formerly Physician-Superintendent Central London Sick Asylum; President North London Medical Society. New York: E. B. Treat & Co., 1899.

UNDER this title the author presents, in unchanged form, his "Lectures on Massage and Electricity in the Treatment of Disease." As under the old name the work is devoted for the most part to a discussion of the theoretical aspects and practical application of massage. Each chapter corresponds to a lecture—the first elucidating the mechanical principles of massage and their chemico-physiological relations; the succeeding lectures dealing with the various kinds of massage and their administration to the different parts of the body (freely illustrated). A rather original lecture is devoted to the Weir Mitchell "rest cure." The last three chapters deal, respectively, with "The Schott Treatment in Diseases of the Heart," "Electro-Physics," and "Electro-Therapeutics."

The writer has imparted a distinct clinical interest to his lectures by keeping before the reader's mind the interdependence of physical and other therapeutic measures in the successful treatment of various diseases. He dwells with emphasis on the importance of adopting the physical treatment to the condition of the patient.

THERAPEUTIC HINTS.

To Prevent Loosening of Teeth.—When it is desirable to counteract a tendency to this condition the following mouth wash is recommended:

℞	Ac. tannici	ʒ ii
	Tinct. iodi	ʒ i
	Potassii iodidi	gr. xv
	Tinct. myrrhæ	*m.* lxxx
	Aq. rosæ	℥ vi.

M. Sig. A teaspoonful in water to rinse mouth every two hours.

For Seasickness.—

℞	Cocainæ hydrochlorat.	aa	gr. i
	Ext. opii		
	Pulv. altheæ		q.s.

M. Ft. pil. No. VI. Sig. One pill every two hours.—*Eid.*

For Hemicrania.—

℞	Antipyrin	aa	gr. xlv.
	Sodii bicarb.		

M. Div. in pulv. No. VI. Sig. One powder every half hour (from 2 to 4 doses a day).

Or the following:

℞	Antipyrin		gr. xlv
	Caffeinæ citrat.		gr. x
	Sparteini sulphat.		gr. ii.

M. Div. in pulv. No. VI. Sig. As above.

At night the following pill is taken:

℞	Ext. belladonnæ	aa	gr. i.
	Pulv. belladonnæ		
	Resinæ podophylli		

M. Ft. pil. No. VI. Sig. One pill at night.—*Grasset.*

For Scabies.—

℞	Sulphuris precip.	aa	℥ ss
	Bals. Peruviani		
	Resorcini	aa	gr. xxiv
	Ac. salicylici		
	Vaselini	aa	ʒ i ℥ vi.
	Lanolini		

M. Ft. unguentum. Sig. External use.—*Besnier.*

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ORIGINAL ARTICLES.

CERTAIN CLINICAL OBSERVATIONS UPON HEART DISEASE.[1]

BY EDWARD G. JANEWAY, M.D.,
OF NEW YORK.

IN thinking over subjects upon which to make a short address to you I could think of none which might prove of more interest than certain clinical observations upon heart disease, presenting the subjects to you as they have occurred to me. In the time allotted I shall be able only to touch upon the disappearance of the murmurs of mitral insufficiency, certain phases of mitral stenosis, and endocardial fever.

In my earlier medical life I was rather incredulous, when the statement was made to one with heart disease, which from all methods of reasoning was a mitral insufficiency dependent upon organic cause, that he might outgrow it. My former friend and colleague, the late Professor Austin Flint, would not infrequently cheer despondent patients with such a hopeful outlook. Hence I have taken especial interest in certain cases of this nature which have fallen under my own observation. Of course you are all familiar with the appearance and disappearance of a systolic mitral murmur during and following some severe illness, where such murmur may be taken to have indicated an insufficiency due to muscular weakness occasioned by the illness, and the disappearance to the improvement of the strength of the heart muscle preventing the previous leakage. Whether such explanation can be made to apply to the following cases I leave to you:

A young lady, aged thirteen years, had a well-marked murmur characteristic of mitral insufficiency, audible at the apex, plainly heard over the posterior part of the left chest, and nearly as much so on the right side. The history given to me at the time was that she had suffered from inflammatory rheumatism when much younger and that the heart disease had then developed. Under my observation she had only a moderate enlargement; there was no marked hypertrophy of the right ventricle. At times she would suffer from palpitation, and she was unable to stand much fatigue. From time to time she had slight attacks of subacute rheumatism. Only at intervals did her heart need regulation by digitalis. Reasonable counsel was given as to the mode of life she should lead, such as would prevent increase of the condition by forced exertion, over-fatigue or undue excitement. For eighteen years as I from time to time examined this young woman the murmur continued audible. But for two years past I have been unable to hear it except upon one occasion after a rather severe attack of influenza and then only for a couple of days.

In this instance a murmur characteristic of mitral insufficiency present for eighteen years under my own observation, and for several years prior to that under the observation of another physician, originating from an attack of rheumatism, has practically disappeared. We are obliged to ask What has produced this change? Two explanations more particularly can be offered. The first would claim that during all these years there had only been a persistence of such a state as exists in the insufficiency of weakness following disease, and that at no time had there been any distinct thickening or shortening of the mitral valves. The most admitted under this theory would be perhaps some dilatation of the left ventricle and especially of the mitral ring. It would also be claimed that as she became older the muscle force increased, and the base of attachment became firmer thus diminishing the size of the orifice and finally allowing the valves to so close as to prevent leakage. Under another explanation it might be supposed that the thickening of the valves was not great, the shortening hence trivial, and that the valve segments may have become united to such an extent as to prevent leakage, but not to so considerable a degree as to cause the evidence of mitral stenosis. Such an explanation occurred to my mind and induced me to endeavor to make out such a mitral presystolic murmur. But listen as I would I could not thoroughly satisfy myself as to its presence. This murmur, it may be stated, did not disappear because of heart weakness, for the patient since the murmur has been lost has been in better health than heretofore, and some of the previous restrictions have been withdrawn.

The other illustration also occurred in a girl, eight years of age at the time of the inception of her trouble. She at first had rheumatism, which was followed by mitral insufficiency. Later she had an attack of chorea and again subacute rheumatism.

[1] Read at the Centennial Celebration of the Medical and Chirurgical Faculty of Maryland, Baltimore, April 27, 1899.

The murmur as in the preceding case was audible over the back as well as on the front of the chest. From time to time as she was examined the murmur continued present until she had reached the age of eighteen. I had not seen her for more than a year, and was surprised at my inability to detect the previously present murmur. She stated that she felt well and was not now inconvenienced by her heart. I examined her subsequently with a similar result. Such commentary as I have made of the first patient will suffice for this.

In a third patient, also a young woman, who had a murmur of mitral insufficiency but not so well marked, nor so loud as the two above noted, death came about from an entirely different cause. At the autopsy made by a pathologist unaware of the previous history the report was that the heart was normal—unfortunately the hydrostatic test was not used, nor was the width of the mitral orifice noted. This young woman had the heart murmur develop as a sequel of rheumatism. The late Professor Flint had given her the assurance which I have above noted. I had examined her from time to time for several years always finding a mitral systolic murmur audible posteriously though when quiet in bed at the beginning of her serious sickness an examination did not disclose it. After this I did not see her, and only have the post-mortem record upon which to form a theory. It certainly points to the possibility of the continuance of a mitral leakage after rheumatism for years without the presence of organic change in the valves.

The speaker while upon this subject feels inclined to draw your attention to the disappearance of the murmur of mitral insufficiency in the course of Graves' disease (exophthalmic goiter). My inclination at one time was to suppose, in this disease, with a rather enlarged heart and a plainly audible murmur of this character, readily heard posteriorly unless the murmur disappeared fairly rapidly under treatment, that it would be a permanent affair. Whilst several cases of the disappearance of the murmur in this disease have come under my observation two only are possessed of sufficient interest to warrant a short outline of their history. The first occurred in a lawyer of thirty-five, who had come from the South to consult me. At home his disease had been considered severe neurasthenia. On his way to New York he had stopped at a medical college where the professor of medicine had informed him that he had incurable heart disease. Pending my arrival from a trip out of town he had consulted a neurologist, who had given him a diagnosis of embolism of the spinal cord. His condition was one of great weakness. He had marked tremor. The pulse was from 140 to 160 per minute. There was moderate exophthalmos, and the Von Graeffe symptom was well marked. The thyroid was fairly enlarged and the thrill and murmurs so characteristic were readily felt and heard over the arteries of the neck and over the thyroid. The heart was enlarged, somewhat weak, and beat as rapidly as the pulse indicated. He was weak and troubled with diarrhea. There existed a mitral insufficiency murmur plainly audible on the back of the chest. As occurs at times in Graves' disease, he would occasionally fall down while walking. The existence of an enlarged heart with a mitral systolic murmur had caused the diagnosis of incurable heart disease. The falling to the floor while walking, in a person with a loud heart murmur, had caused the diagnosis of embolism of the spinal cord and a correspondingly bad prognosis.

This patient made a complete recovery in the course of three months—under the use of iron, strophanthus, improvement of nutrition, the cure of the diarrhea, and the application of rest. He was much helped by the assurance of recovery. The mitral insufficiency murmur entirely disappeared.

The second patient was a lady of about forty years. Her disease had been due to or rather followed an accident. While traveling in a mountainous country the donkey on which she was riding slipped on the edge of a precipice, and she was saved by catching on a tree which grew below the level of the edge. The occasion of my seeing her was that a physician in attendance had told herself and her husband that she had incurable heart disease. When I first examined her she had moderate exophthalmos, an enlarged thyroid, and marked thrill and murmur over the arteries of the neck and thyroid. Her pulse was 120 to 130 per minute. The heart was somewhat enlarged by palpation and percussion, and a marked mitral systolic murmur was audible at the apex conveyed behind and heard on both sides posteriorly. She had lost weight. There was a fully marked tremor and a sense of heat. The Von Graeffe symptom was also present. Later edema of both limbs developed. I had told her husband that I thought she could be cured and that we should regard the heart murmur as due to muscular weakness if it should disappear within three months. This lady in the end made a complete recovery except as regards the exophthalmos, of which there was still some trace when I last saw her. The murmur, however, did not disappear for more than nine months, and when the edema of the legs developed I feared that I had been a bad prophet. The treatment which brought about recovery was assurance that she had a disease from

which she could get well, and not incurable cardiac disease, the use of strophanthus, iron, and when edema occurred the addition of digitalis to the strophanthus. Galvanism to the neck was also employed. The attempt was made to improve the nutrition. Two years after her recovery I examined her when she had come in from a walk of over a mile and it was impossible to hear any evidence of mitral leakage. Allow me to say in passing that my experience with Graves' disease in private practice has been that the patients recover. In hospital experience, on the other hand, the results have not been as good This I ascribe in considerable degree to two facts: first, a large hospital with its attendant scenes and incidents is a poor place for this class of patients; and second, to the apparent impossibility of pursuing the same continued plan of treatment on a moderate basis.

Certain observations with mitral stenosis have also sufficiently interested me to place them before you. It is as you know very generally claimed that the mitral presystolic murmur is only audible over a limited area at or near the apex. In about one third of the cases of this type of disease I think that one would be able to make a probable diagnosis by listening at the back of the chest below the angle of the scapula where in this proportion of cases a murmur can be heard, not so loud, nor so plain, it is true, as in front. This, of course, is in opposition to the generally received view, and is opposed to the teaching of many of the text-books on physical diagnosis. I feel assured that with a careful study of the facts of the case you will agree with me. No form of heart disease is more often overlooked than mitral stenosis, in which there exists only a slight presystolic murmur, and I am convinced that teachers of medicine should give more time to having students acquire the faculty of making the diagnosis of this type I have had four cases of this disease in which the first evidence of cardiac impairment was brought about by exercise at high altitudes. The first concerned a gentleman who had gone into a mine at Leadville (11,000 feet) and on coming to the surface suddenly lost the sight of one eye. On his return he consulted me with relation to this, which was found dependent upon embolism of the central artery of the retina. This had come from a heart of which the only lesion was mitral stenosis and its effects. From this time on he had gradually progressing cardiac impairment. The second concerns a lady, at that time living at Telluride (9000 feet) who brought her daughter to me suffering with chorea, and incidentally asked why she felt so bad when going up stairs at home. She had mitral stenosis of the type indicated, and was ignorant of the existence of heart disease, though she had consulted a number of physicians. Later I learned that she had been forced to seek a lower level, and was affected with cerebral embolism, aphasia, and hemiplegia. The third concerned a lady, who informed me that she had run at an elevation of 10,000 feet in the Himalayas. Previously she had been unaware of any heart trouble, but since she had suffered more or less from cardiac impairment. The fourth recently told me that she had run with a rifle in her hand several hundred feet at an elevation of 7000 feet in Yellowstone Park, when she dropped from inability to proceed and from cardiac distress. Since this time she had had more or less cardiac disturbance. Her heart exhibited the murmur mentioned. She consulted me for headaches, and not for the heart trouble, though in obtaining her history I found that she was unable to do much which had been formerly possible.

Again I have known several patients who have been examined on account of severe illnesses, in whom I have detected the murmur of mitral stenosis. In some of these on obtaining the history I found that where formerly they had suffered with what were considered asthmatic attacks, after taking to the bicycle there had been a marked improvement in their condition.

Another consideration worthy of a passing notice is the substitution of the mitral systolic murmur for the presystolic as the heart compensation is markedly disturbed. My attention was drawn to this years ago when teaching. A patient whom I had shown one year as a well marked illustration of mitral stenosis with a plain presystolic murmur, after being out at hard work would return with edematous legs, congested liver, etc., and be sent to me as a case illustrating mitral insufficiency and I would be forced myself to admit the change of the murmur. After rest and treatment very probably the old order of things would be reproduced. The systolic would give place to the presystolic, or the diastolic and presystolic. In the case of one patient this occurred three times. It is in part owing to the non recognition of this by some that part of the confusion with reference to the diagnosis of mitral stenosis has been produced. Well-marked mitral stenosis would be found at an autopsy in a person whose disease from the heart murmur had been considered mitral regurgitation. This occurs more especially in hospital practice and in patients coming in with much broken compensation. These have not, of course, been under observation by the same physicians previously.

Your president, Professor Osler, has done so much by his investigation and writing to inform the medical profession about malignant endocarditis that in

touching upon this as a third topic I feel much as he who brings coals to Newcastle. Still I trust that it will not burden you, if from a considerable experience I draw your attention to certain phases which have interested me. The disease is so protean in its manifestations, so different a clinical picture is presented by the sufferer with the acute variety compared with that presented by the victim of the chronic type, and the diseases with which mistakes in diagnosis are likely to be made are so divergent, that the question has forced itself upon my mind whether the employment of the term endocardial fever might not be of service. Owing to the number of manifestations which the disease presents we are in need of a number of subdivisions, if we wish to make the best use of the memory of our previous cases. It has also seemed to me that physicians with whom I have seen cases have not had their attention drawn to the possibility of the existence of the disease in such cases as were of the mild chronic type, when the terms ulcerative, infectious, malignant were employed. If among the fevers we could introduce the term endocardial, then the student would hold in mind the possibility that in any given case he must consider this as a possible position for the origin of fever. I must confess that the objection can be urged against its employment that we might as well speak of pleural, cerebral, and other fevers, as to consider the place instead of the process in designating a fever. However that may be I must confess that in not a few cases of the chronic type I have derived satisfaction from the use of the term. From such experience as I have had with the disea e I would be inclined to make two separate divisions. The first would be according to the type—peracute, acute, subacute and chronic. The other would aim to present the different ways in which the disease may occur.

1. With heart murmur: (*a*) Hemorrhagic, (*b*) with embolism, (*c*) with or without hemorrhages, and febrile.

2. Without heart murmur: Still again according to the type of the fever we could very well make a classification with continued fever, with remittent fever, with intermittent fever, with chronic mild hectic fever.

Again it would not be difficult to construct a class as primary and secondary, using this designation even in a double sense, so as to include cases in which the inflammation affected a heart whose endocardium was previously healthy, and that which was previously diseased, or, on the other hand, to signify that the endocarditis was the primary lesion and such events as happened were dependent upon its affection, or that the inflammation of the endocardium was only part of a process whose origin was in a septic focus within the system.

Formerly I encountered a comparatively larger number of the acute cases, and my introduction to the case was more particularly to decide whether the person was affected with some infectious disease, and to give it, if possible, a name. I have thought it possibly profitable to present this part of the subject to you as I have been forced to consider it. The most frequent inquiry is, so far as the acute malignant type is concerned, whether the patient has possibly any of the malignant types of the ordinary infectious diseases. Especially may the mistake be made between purpura variolosa, cerebrospinal meningitis, and typhus fever. Only in the large seaboard cities is the last fever likely to be considered. In trying to determine whether a given case is more probably due to endocarditis or to another malignant process I have found that attention to the position of the hemorrhages is at times very helpful. Several times I have noted numerous small hemorrhages with slight nodular character in the palms of the hands and in the soles of the feet, when possibly the arms and the legs had but a scanty crop in malignant endocarditis, whereas this has not been my experience with the processes likely to be mistaken for it. The presence of hemorrhages in the conjunctiva is also more in favor of this disease, particularly if the inquiry be between it and typhus fever. While the presence of a heart murmur, together with the above events, suggests strongly ulcerative or malignant endocarditis, it is well not to argue thus without a definite basis. There exists no reason why a person with heart disease should not develop one of the malignant types of fevers. If a patient be in a hospital-ward, hotel, or boarding-house then we are compelled to endeavor to solve the question at as early a period as possible with a view to the patient's isolation or removal if he should have another process than endocarditis. Hence we are obliged not alone to consider the probable diagnosis as made from the events, but also to institute an inquiry as to previous vaccination, and possible exposure to some disease within a recent period. There are certain phenomena in a doubtful case which have great weight as the occurrence of embolic processes, as proven by the development of hemiplegia, aphasia, or by the proof of the blocking of an artery of the limbs. These phenomena would not occur in the other types of disease. A heart murmur, if none were known to have previously existed, or if the one previously present has altered in character, taken in conjunction with these phenomena, make the diagnosis of malignant endocarditis as near a certainty as anything in medicine.

A brief sketch of two cases will bring this out in its proper light. One evening, after having spoken upon the subject somewhat dogmatically, a physician asked me to see a case with him which he feared was possibly malignant typhus or variola. The man had been employed as floor-walker in a large department-store, he lived in a boarding-house, and it was desired at as early a date as possible to name his disease. He had previously suffered from rheumatism and had well developed heart murmurs. On inquiry the physician stated that these had altered in quality. In the poor light it was only possible to make out the distribution of the larger extravasations. There existed a very profuse, reddish eruption on the palms of the hands and the soles of the feet which was slightly nodular. The man was semicomatose. The conjunctivæ, neck, and body showed hemorrhages, but the skin of the legs and forearms were almost free. He had a mark of vaccination. No variola was prevailing in the city. He had only been ill for three days and had high fever. Typhus fever had never presented itself in this aspect and these points seemed to justify the exclusion of variola, hence a diagnosis of ulcerative endocarditis was made. In this instance the appearance in the daylight was far better for diagnosis than that at night. The autopsy made a day later showed the disease to have been attended by as profuse internal hemorrhages and embolic processes as on the exterior. A careful questioning failed to prove the point of entrance of the germs productive of the disease.

The second case occurred in a young lady who had chronic valvular disease, the result of rheumatism. She had a week previously suffered from a profuse epistaxis, which had required plugging of the nares for its arrest. The plug had been allowed to remain several days. The young lady's family were not alarmed at her condition until the day of my visit. She had complained of pains and fever, and now had become somnolent. When seen, she lay in a dark middle room, was comatose without stertor, had a loud mitral murmur, altered in character, according to her physician, with a rectal temperature of 106° F., and a pulse of 130. I was unable to make out positively the diagnosis of ulcerative endocarditis because it was impossible to determine in the light at hand the presence of petechiæ. Seen the next morning she presented these abundantly over the body, neck, face, and on the conjunctivæ, her coma had deepened, and the rectal temperature was 107° F. She died on the evening of the second day after the serious symptoms developed. In this case I think we may justly claim that the place of entry of the germs was from the nasal mucous membrane.

The most difficult of the acute cases to recognize are those in which no heart murmur exists, or where the lesion is on the right side, and the secondary effects are in the lungs more especially. In the former we are apt to be thrown off our guard; yet by paying attention to the previous noted study of petechiæ, especially if combined with irregular nervous phenomena, we may make a correct diagnosis. In the latter the danger is of mistaking the pulmonary lesion for primary. Yet it must require a very close analysis to determine whether the pulmonary phenomena antedate the cardiac lesion, or, on the other hand, the endocarditis is the result of pneumonia, as may happen.

Acute yellow atrophy of the liver was supposed to exist in one case though there was only the fever, petechial eruption, and the typhoid state, delirium, and unconsciousness to suggest it, while in favor of the ulcerative endocarditis were the normal size of the liver, not diminishing under observation, and a plainly distinguished heart murmur. The jaundice was found to be associated with an embolus in the hepatic artery. At times it has been extremely difficult to establish a diagnosis of endocarditis as opposed to a continued fever. This will happen especially in hospitals where patients are admitted in the middle course of the disease, who have a slight murmur at the mitral, about whose past history there is no knowledge as regards the previous presence or absence of such murmur. With the newer means of examination fewer errors of this kind are likely to happen, for with the Widal test, the culture of the feces, and a leucocyte count we will, if chance be given for continued study, arrive at the approximate truth. But it is an interesting question whether certain of the cases in literature quoted as establishing the succeedence of malignant endocarditis to variola, typhoid fever, etc., may not have been dependent upon the post-mortem findings, added, whether rightly or not, to the ante mortem diagnosis. More chances of mistake for malaria exist in my experience in two types. The first includes those cases in which a chill, fever, and sweat occur with tolerable regularity, yet neither plasmodia can be found in the blood, nor does the disease yield to quinin. I had a very marked example of this type coming to my office for a number of days. The periodicity was well-marked, the temperature on several occasions reaching 104° to 105° F. in the office. Daily examinations failed to show plasmodia, a leucocytosis was present, and quinin in different forms failed to relieve. Finally the patient developed a pulmonic systolic, and later a pulmonic insufficiency murmur. In this person there had been a gonorrhea when, ten weeks prior to other symptoms

certain joint pains occurred, followed by this intermittent fever. With the development of the heart murmur I felt that it was wrong to have him take a long trip daily to my office and advised him to enter a hospital. He was admitted to St. Luke's, where, after a serious illness, fever, pulmonary complications, and nephritis, he made a recovery. He is the only illustration of this termination in cases in which I have felt forced to a diagnosis of malignant endocarditis. I have also met one case long considered and treated for intermittent fever in a hospital prior to the days of plasmodial examinations in which the autopsy showed ulcerative endarteritis with vegetations on the first portion of the aorta.

The form which more commonly leads to the diagnosis of malaria is the chronic type, where for weeks and months the only phenomena are daily fever and gradual exhaustion. At times embolism occurs so that help is given in establishing the diagnosis by that event. The failure of quinin to produce a cure soon leads to a change of opinion and either tuberculosis or sepsis from some hidden abscess is considered the cause of the sickness. In all cases of this kind where a heart murmur exists endocarditis should be considered as the probable cause of the fever unless definite trouble can be found elsewhere. I have two cases at the present time, one of which has lasted over a year and the other for five months, where search as I may no proof of other cause for a fever can be found than to consider it endocardial. We can, of course, in some cases be helped not alone by the blood-count but also by the blood-culture, providing it is carefully performed. Formerly with simple skin pricks the chances of mistake were too great. Yet when we have obtained a positive result will it materially aid our therapeutics? It has been difficult to have the serum used, and yet in the two cases where I recommended its employment in endocarditis no positive good result followed. I have tried varied remedies without avail and have of late, in despair at the hopelessness of the picture, determined to obtain the germ from the blood, and apply serum-therapy accordingly when possible. My present position is but one patient recovered and that followed gonorrhea.

The disease seems to me to be on the increase, for within the past year eight cases have been observed either of the subacute or chronic type. In two cases gonorrhea was the probable cause, but in the remainder it was not possible to locate or name the point of departure of the disease. I questioned the people, their physicians and friends in vain.

A few words might have been devoted to the discrimination from tuberculosis but the rules are sufficiently known. The chronic cases are in my experience very generally considered to be tubercular though in the absence of physical signs the pendulum swings usually from malaria to tuberculosis.

THE CLASS METHOD OF GYMNASTIC TREATMENT OF LATERAL CURVATURE OF THE SPINE.[1]

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This paper is a review of the work and results obtained in the lateral-curvature clinic at the New York Hospital for Ruptured and Crippled during the last year and a half. I shall hope to show that, although the individual application of exercise, whether heavy or light, is more accurate and effective than group work, the latter is not only a valuable aid in bettering the condition of even the worst cases of scoliosis, but may alone cure the milder forms.

The surgeon's aim in the treatment of lateral curvature should be the development of the patient's physique to as high a degree of efficiency as possible. Believing that the employment of such measures as increase the functional activity of the entire motor apparatus—nerve mechanism and muscular mechanism—is the most rational and scientific procedure in the majority of cases, the problem on undertaking the dispensary work was how to apply the exercise treatment to the many patients presenting widely varying conditions.

The symptom of pain is found in comparatively few cases. But in some it is very real and intense, and seems to be of two varieties, etiologically considered: The rheumatoid pain, found more frequently in early cases with purely postural deformity, and due to the continual dragging on poorly nourished and poorly developed muscles; and the neuralgic type, more apt to be found in old fixed cases, and caused by pressure on the intercostal nerves by the infolded and retracted ribs of the concave side. Relief is sought and should be given in either case. A carefully fitted and applied Knight or other brace, or plaster-of Paris jacket, will accomplish this in most cases; but the best are burdensome and hamper the motions of the body; in a word, they limit the actions of the working apparatus. But the majority of patients, whether in private or dispensary practice, do not come to the orthopedist because of pain. "Her shoulder is getting higher," "the hip is growing out," "her dress don't fit her well," "she stands and sits so

[1] Read at the Thirteenth Annual Meeting of the American Orthopedic Association, held at New York, May 31, June 1 and 2, 1899.

crooked"—there is a recognized asymmetry, and the surgeon is asked to remove it. Dypsnea and cardiac embarrassment may be present in late cases and require careful treatment.

The record of the seventeen months ending May 1, 1899, shows 199 cases examined. The ages of the patients have varied from four and one half to twenty-four years, the greatest number being from eleven to sixteen years old. Ninety-three per cent. were girls. Four were colored. Under hereditary conditions it was noted that in 15 cases a similar deformity had been present in one or more near relatives; in 8, some tubercular history; in 5, cardiac, and in 3 nervous system complications were present in the family, and one was a twin, the sister being much stronger than the patient presented. An early history of measles was recorded in 126 cases, of scarlet fever in 48, and of diphtheria in 43. Other forms of previous disease were pneumonia, 7; empyema, 3; paralysis, 3; chorea, 17; meningitis, 3, and rickets, 10—although evidences of the last disorder were found to exist in a far greater number of cases. The occupation varied with the age. Thus, the great majority—141 out of 199—were at school about six hours every day; 9 were factory employees; 6 held clerical positions; 6 were dressmakers; 3 domestics; 2 children's nurses; 1 cooper; 1 devoting his time to violin study, and 30 living at home with no very definite occupation—all leading more or less sedentary lives. Indeed, with but few exceptions, it was found that they were, and had been for some years, less active than those about them. They did not enjoy exercise, and often they were distinctly discouraged in it by their parents.

At the time of the onset of the deformity the increase in height had been so marked in thirty-five cases as to lead to the belief that a rapid increase of bone lengths without a corresponding increase of girth measurements—comparative muscle atrophy, if I may so say—was in itself a not infrequent cause of curvature. Certain habits of posture were carefully looked into, and it was found that (1) the carrying of heavy weights, books, or a baby brother or sister on one side more than the other; (2) the unequal distribution of the weight of the body while standing; and (3) asymmetrical positions at desk or other work, one or all of them, were either observed or easily elicited in the great majority of cases. There was a great inability on the part of parents in any way to account for the conditions found. This is to be explained by their ignorance and lack of observance of their children. But a fall or other injury to one side of the body was traceable in twelve cases and astigmatism in two. The effect of an injury in initiating a curvature I would explain by the profound impression made on the child in the necessity to limit movement on that side, partly conscious at first, and afterwards becoming habitual. Unequal vision, a well recognized cause of curvature, I believe, to exist in many more cases than those noted. Certain less common, but easily traceable causes, were recorded. These included, actual difference of more than half an inch in length of lower extremities, in 8; marked contraction of one side of the chest from excision of one or more ribs, 3; torticollis, 2; partially ankylosed elbow-joint in semiflexed position from contracting cicatrix, 1; unilateral spastic contraction of pectoralis major, 1; old dislocation of shoulder-joint, 1; talipes varus in girl of fifteen, 1.

Decided difficulty was experienced in ascertaining the time of onset, hence the duration of the deformity. Previous treatment had been given in 168 cases, and included corsets with the purpose of "straightening her," in 135 patients; a special brace, 16; plaster of Paris jacket, 3; electricity, 1; and some form of gymnastics, 13.

The general examination of the patients showed headaches to be present in 7 cases, localized pain in 39, marked dyspnea in 1, leucorrhea in 5, dysmenorrhea in 4, general rheumatism in 1; also a decided heart lesion in 9, anemia in 9, and mental deficiency in 3.

The forms of curvature were classified as follows: Posterior curvature only, *i. e.*, round shoulders, abducted scapulæ, etc., 35; posterior curvature most marked, but with some lateral deviation, 17; single lateral curve to the right, 7; single lateral curve to the left, 21. *Compound. Right dorsal, left lumbar:* First degree, purely postural, no rotation, 32; second degree, rotation present, 58; third degree, rotation fixed, 22; total, 112. *Compound. Left dorsal, right lumbar:* First degree, postural and no rotation, 1; second degree, rotation present, 4; third degree, rotation fixed, 2; total, 7.

That is to say, that of 199 patients examined, a little less than half had postural asymmetries, or those which they could by will power or by suggestion entirely overcome, and a little more than half were afflicted with deformities more or less fixed and beyond the control of their motor apparatus.

The treatment followed has aimed through class work almost exclusively for the first type just mentioned, and through class work supplemented by frequent individual suggestion and exercises in the second type, so to increase the size of the muscles and train the motor apparatus, that they will retain or more easily approximate the ideal position.

Patients presented themselves at all times of the year, although it was observed that there was an in-

crease of school children during the early months of the fall, and an increase during the spring of the older working people. This stringing along of the patients, and the fact that no one so far has been refused treatment were practical difficulties in the class method, which it is proposed to obviate in the future by starting a new class every two months and commencing only individual work at once, where that is thought desirable. This would include an extra physical examination of all under treatment just before the new class commenced to determine (1) who should be discharged as cured; (2) who should be advanced to a class having more difficult work; (3) who should remain where they are, and (4) who, having had a fair trial of perhaps a number of months without improvement, should be dismissed as worthy subjects of a charitable institution whose function is to treat chronic patients —clearly, not the purpose of an out-door dispensary. The question might be asked, Why receive these cases at all if they are incurable—why not dismiss them at first? The answer is that it is impossible to tell results at the time of examination; that many of the worst and apparently most hopeless cases have, through their determination and perseverance, made most marked improvement; while others, with but little deformity, but more listless, and handicapped by poor hygienic and dietary surroundings, have shown but little improvement, and in a very few cases have seemed to become worse.

Treatment is given three afternoons a week, from two until five o'clock, in a large room especially set apart for that purpose. There are now four able assistants, young women who are graduates of leading normal schools of gymnastics in the country, who help, two in the class work and two in the individual work exclusively. After examination and shadowgraph record of the case, the patient is assigned to the proper class and also to his day of special work, if it is necessary to add this. He is instructed to procure a cheap form of gymnasium slippers, and to have loose clothing for the exercise. For the girls, and especially those who are wearing long dresses, the bloomer or gymnasium skirt is strongly recommended, but not insisted upon. This, which it was difficult to get them to start, has now so become the thing that girls will appear in them of their own accord after three or four visits.

When the number coming for treatment became too large to be properly handled in one class—I do not like to have more than twenty-five together, and prefer fifteen—division was first made on the basis of variety of curvature, irrespective of age or intelligence. But this was found to be unsatisfactory, because the method of instruction and degree of efficiency possible in a child of eleven would distinctly hinder the progress of a girl of fifteen, and it was soon recognized that much of the kind of work which was beneficial for purely postural deformities was equally valuable for partially fixed cases. So division has been made into three classes about as follows:

Class I, children and those just past puberty, who are beginning treatment; Class II., children who still require more treatment after they have obtained sufficient ability and understanding of their exercise to advance them to work with the older girls, and all older girls or boys who are beginning treatment; and Class III , made up of all, but especially the cases of greater deformity, who, having acquired a proper degree of general muscular development, are given harder work. This class, which, in its present personnel, I have the pleasure of demonstrating at this convention,[1] have had a general development which has changed several of them from sickly, anemic, and deformed patients into healthy and more or less robust boys and girls who, if they have not eliminated all trace of their curvatures, are at least better able to bear the burdens of life free from the reasonable fear that their deformity will increase. I do not know of any treatment other than systematic exercise which will accomplish this. This class I consider fit subjects for heavy apparatus work.

An adaptation of Swedish Educational Gymnastics is the form used. In the system of Ling, as many of you know, the "day's order" is divided into eleven forms of exercise, to include all portions of the body, and so arranged as to vary with consecutive lessons, according to a logical progression of difficulty of performance and requirements of previous training of heart and lungs, as well as of the general motor apparatus. This system was chosen because: (1) it was believed to be conducive to the greatest accuracy of position, (2) by the use of command more than demonstration of exercise, the conscious assumption of correct positions, trains the nervous system clear back to the highest intellectual centers, and (3) in its method of neuromuscular training by means of forced position holding, rather than by continuous rhythmic motion, the surgeon is enabled to correct any faulty position at once. Soon after the work was begun an additional practical reason for its use was found in the adoption in the New York Public Schools of Swedish educational gymnastics, so that those patients who were fortunate enough to be in a school where a little exercise had been crowded into the course,

[1] A class of twenty-five was presented at the Hospital for Ruptured and Crippled.

were already acquainted with something of the commands used.

The class work is entirely without apparatus. The bare-floor space and the employment of pure body mechanism, bone and joint leverage is all that is depended upon for resistance to muscular action. It must be remembered that much of the light dumbbell and Indian-club drill now in vogue tends to develop the arms and forearms out of proportion to the trunk; but trunk development is what we seek, and the weight of the head and of the extremities forms all of the *weight-arm* resistance required, when the body is placed in appropriate positions. It should not be inferred, however, that the use of horizontal bars, rings, and of the heavy lifting weights that Teschner advocates are not conducive to good, and even more rapid, results, after fundamental posture-concepts have been acquired by the patients. In private practice we can oversee each motion made. But the individual supervision required of the surgeon makes it inapplicable to group work.

The actual make-up of the drill will vary day by day according to the principles of progression above alluded to, but follow strictly the same sequence as to kind of exercises. Thus, after a few quick arm and leg movements to stimulate attention, a formal exercise to increase all diameters of the thorax by overextension of the upper spine is given in various ways. After this come forcible arm thrustings to act upon the muscles with vertebro-scapular attachments. Then come balancing exercises to train the coordination of the muscles about the hip, knee, and ankle, and incidentally of the lower back. After this, the muscles of the lower dorsal and the lumbar regions receive particular attention. Stress is laid upon this variety of exercise, and progression is made as rapidly and accurately as possible. Exercises for the abdominal muscles follow. These are found to constitute a valuable therapeutic agent in overcoming the slouching postural lordoses so commonly associated with round shoulders and even with kypho-scoliosis. In lateral trunk flexions, the danger of increasing the curve mechanically by bending to the wrong side is overcome by noting for each patient, at the time of examination, which side-bending tended to improve the curve, and by placing her accordingly in one or the other line in the class, where she soons learns to bend to her own side only. A little brisk marching, or a run and a deep respiratory movement, last of all, leaves the patient with a general sense of well being, and the treatment is over for the day. One class averages from thirty to forty minutes. Allowing five or ten minutes between classes for the change of clothes, three classes and the individual work are completed in two and one half hours, and all the patients are treated at each time.

Every exercise and every position thus assured, attains as nearly as possible a typical perfection, but particular stress is laid upon the pose of the back and chest. To maintain a given posture absolutely, the entire attention must be concentrated upon the parts so held, especially when this posture is unusual, and anything which diverts the attention weakens the control. One authority has said that the movement of an eyelid affected the posture of the body. These positions oft assumed become habitual because the entire mechanism controling them has been changed. Possibly the physiologists may one day prove to us that these underlying nerve changes, as well as the muscle changes, are entirely organic, and have an anatomic basis.

Of the 199 patients examined during the time mentioned, 44 have found it impracticable to take the gymnastic treatment, leaving 155 who have had this treatment. Of these the greater number, 115, have had class work only, while 40 have had both class and individual work.

The length of time given to treatment varies, but it is found that the simpler postural cases have required from two to five months, and the severe ones six months to a year, before it is possible to say that they have passed the place where it is reasonable to expect that the deformity will not become worse. It is not thought desirable to keep them longer than a year.

It is difficult to state results accurately because the patients often simply stop coming without giving the surgeon an opportunity to finally examine them.

But the following may be stated of the 155 reated: Thirty have been definitely discharged—15 as cured, 14 as much improved, and one unimproved, because insubordinate. Fifty-two have discontinued coming to the clinic, and later enteries show in their histories, 44 cases improving, 4 not yet improved, and of the remaining 4, no entries. Seventy three of the 155 might still be considered as under treatment, though but little more than half that number are regular. Thus, out of 82 patients who are no longer under treatment, 73 are known to have been cured or improved

Summary.—1. Varying conditions among curvature cases do not prevent efficient work in groups of fifteen to twenty five, but a gradation according to age and ability to work is necessary when many patients are treated.

2. The class method ensures the treatment of many more patients than would be possible by individual supervision of exercise.

3. The Swedish educational gymnastics is used because well adapted for these three objects: (*a*) To isolate activity in groups of muscles; (*b*) the immediate and effective correction of faulty positions; and (*c*) the development of intelligent and purposeful cooperation of the patient.

4. Nearly all of those who faithfully pursue the treatment show marked improvement.

THE ETIOLOGY OF YELLOW FEVER.[1]

ABSTRACT OF THE REPORT OF THE COMMISSION OF MEDICAL OFFICERS, MARINE HOSPITAL SERVICE, DETAILED BY AUTHORITY OF THE PRESIDENT TO INVESTIGATE THE CAUSE OF YELLOW FEVER.

THIS report embodies the work of the Commission in fairly testing the claim of Professor Sanarelli of Bologna, Italy, that the bacillus icteroides is the cause of yellow fever, and the conclusion is drawn that this famous scientist has isolated the true cause of the terrible scourge.

This conclusion is based upon a careful bacteriologic study, in the well-equipped laboratory of the Marine Hospital Service in Havana, Cuba, of twenty-two cases of disease thought to be yellow fever by the native physicians in attendance. Of these patients all were seen during the progress of the disease, and in fourteen of them the Commission concurred in the diagnosis. Each case was the subject of careful bacteriologic study before, and, if practicable, after death. This consisted in the abstraction of blood in sterile bulb-tubes from the ear tip under careful asepsis. This blood was then diluted in the bulbs with meat-peptone bouillon, and after an incubation of twenty-four hours the growth was transplanted to fresh tubes of bouillon, from which, after twenty-four hours, Petri plates were made in series. From these the organisms present in the blood were isolated in pure cultures, and studied. After isolation each organism was subjected to cultural examination on all media, by means of which those meeting the demands of Sanarelli for the organism he discovered were readily selected and their pathogenicity for animals established.

Of the fourteen cases diagnosed as yellow fever, the Commission isolated the organism of Sanarelli, the bacillus icteroides, from thirteen, and in the patient in whom this organism escaped the observation of the Commission it was isolated by an independent observer for whom tube cultures had been taken at an autopsy conducted by the Commission. Thus the even percentage of isolation has been obtained in these fourteen cases, all of which presented prominent symptoms of the disease. In the cases not thus diagnosed the organism of Sanarelli was not obtained. From the living blood of twelve of the fourteen patients, abstracted not earlier than the third day of the disease, the organism was isolated, and in the two others it was obtained post-mortem.

The Commission, having preserved a number of cultures made at the Isolation Hospital in the City of New Orleans from patients seen during the epidemic of 1897, also isolated therefrom the bacillus icteroides in the proportion of 83.33 per cent. of the cases examined, the cultures having been made at autopsy. Thus the identity of the bacillus icteroides of our Southern States, with that found in Cuba, and that sent the Commission by Professor Sanarelli, which was obtained in South America, was established.

As a control to these examinations the Commission made use of a number of patients suffering from diseases other than yellow fever, from whom the blood, extracted in the same manner and treated in the same way, failed to yield any organism at all comparable to Sanarelli's. These diseases were representive of those usual to the City of Havana, and were seen during the same period of time in which the cases of yellow fever were under observation.

Also there were thirty-one dead bodies examined, bodies dead from known and unknown diseases, many of them in the city morgue, the most of them in the Spanish military hospitals. In each instance careful section was made and the blood from the heart, from the liver, the spleen, and the kidneys, urine, and feces, planted directly in bouillon or upon agar agar slant tubes, from which cultures series of plates were made. All bodies thus examined, at times many hours after death, yielded colonies of various organisms, save one, and this at the time of autopsy was diagnosed pathologically as yellow fever, and was sterile.

In none of these cases of comparative autopsic examination was the bacillus icteroides found; neither in their blood, nor urine, nor feces. Therefore, the Commission assumes that the organism of Sanarelli is found only in bodies sick with or dead from the disease—yellow fever, at the same time conceding that in many of the sick the blood does not yield the germ, and that in the dead it may prove absent only under certain conditions.

Coincident with the above observations the Commission carried on the study of the natural history of the organism as to its mode of entering the body, its colonization therein, its toxic possibilities, and its distribution in the organs post-mortem.

[1] Under date of November 8, 1897, Passed-Assistant Surgeon (now Surgeon) Eugene Wasdin and Passed-Assistant Surgeon H. D. Geddings were detailed by authority of the Secretary of the Treasury and the President as a Commission to investigate in Havana the nature of yellow fever. Their full report, dated July 10, 1899, has been received and is printed as a separate publication.

Numerous and interesting experiments were made with animals, the Commission finding all the animals at its command, such as mice, rats, dogs, cats, guinea-pigs, rabbits, and monkeys, quite susceptible to the artificial infections produced by inoculating them under the skin, intraperitoneally and endovenously. At the same time it became convinced that the same, or very similar results were obtainable by the use of other organisms of different kinds. It found, as had been claimed by Sternberg, that similar clinical and anatomical results could be found after the artificial administration of the bacillus *x*, as well as that of Havelburg, and of the bacillus coli communis, all of which proved, when artificially exhibited, very pathogenic to all animals; and autopsies upon these revealed similar conditions in the organs. Moreover the toxins elaborated *in vitro* by the above-named organisms, *x*, Havelburg, and coli communis, and icteroides, were precipitated, purified, and tested comparatively upon animals, with the result that the Commission decided that the *mode of death* from these toxins, when injected into animals, *was the same in kind*, and that the toxins differed only in intensity, and that of them the bacillus icteroides was the most potent.

From these facts the Commission, early in their work, became convinced that the claim of Professor Sanarelli, of having discovered the germ of yellow fever, was not established by any evidence presented in his published works, and that it was not tenable so long as it could be claimed that the bacillus of Havelburg and the bacillus *x* of Sternberg produced the same pathological conditions when artificially inoculated, and the Commission recognized the validity of this claim, in view of the facts given above, although it had for a long time recognized both of these organisms as belonging to the colon group.

At this stage of its work the solution of the problem seemed very remote, but before turning to some other and unknown cause of this disease it was determined to place experimental animals under *natural conditions of infection*, since it was recognized that all preceding experimental work was so artificial that it was impossible for the Commission to judge of the pathogenic, or rather *specific* merits of the three prominent organisms. From this animal experimentation the Commission proves the *natural specificity* of the organism of Sanarelli, the absolute *innocuousness* of the bacillus coli communis, of the bacillus *x*, and of the bacillus Havelburg, to even the most susceptible of animals; and a marked degree of similarity in the reaction of these animals (mice) to the *acute infectious organisms*, such as bacillus typhosus and bacillus cholera suis, when exhibited to them naturally. The Sanarelli organism is thus eliminated from the colon group and associated with the acute infectious organisms.

The Commission recognized that Sanarelli's claim was *only* one of *pathogenicity* and not of *specificity*; that until such demonstration of specificity there could be no *valid* claim for his organism. This validity the Commission believes to be established by the conclusion that the bacillus icteroides is "naturally infectious to animals, the degree varying with the species. In some rodents local infection is most quickly followed by blood infection, while in rabbits and dogs there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man does."

The Commission has determined "that the infection takes place by way of the *respiratory tract*," and that the primary colonization in the lungs is responsible for the first evidences of absorptive intoxication such as fever, pains, etc., characteristic of the disease. Also that this primary colonization in the lungs and its toxic symptoms may constitute the *entire attack* of the disease in many instances, an attack so light, so ephemeral, that even the most expert diagnosticians may not differentiate them from other ephemera, or poorly marked attacks of allied diseases, as for instance, *dengue*. Moreover, the conclusion has been reached that what is known in the literature of yellow fever as the "reactionary fever," the "secondary infection" (from micro-organisms normal to the body), and the "secondary paroxysm," is due to the passage of the infecting germ, the bacillus icteroides, from its primary colony in the lungs into the general circulation, thus producing the "secondary paroxysm" so familiar clinically in all marked cases, unless they are of the *siderant* type. This "secondary paroxysm" is then a septicemic one, and it depends not upon the bacillus communis, or bacillus proteus, or upon the micro-cocci, but upon the further colonization of the specific organism in the blood, thus bearing out Paget's observation that the "*decline*" *of the fever* the true "secondary paroxysm," is as *specific* as the "rise" or the primary attack. The Commission recognizes the coincident invasion of the blood by the organisms of the respiratory tract, as of possible, it may be frequent, occurrence, among which are found colon and proteus; or these may invade from the alimentary canal "during the last hours of life," when the mucosa becomes impaired from stasis, such mixed septicemia being of the most severe type and frequently fatal.

The Commission, therefore, differs entirely from Professor Sanarelli in his theory that yellow fever is primarily a septicemia. Indeed, it can scarcely be a matter of surprise that Sanarelli formulated this

opinion seeing that he always produced, with (as he thought) unimportant exceptions, *artificial infections* by internal inoculations, which perforce must have produced septicemia. Those cases not open to such explanation, which he observed in man, he explained in a still more unsatisfactory way; in fact by the assumption that the germ elected to hide away in the spleen in small numbers during the *whole course* of the disease, only to come suddenly forth and produce a septicemia at its termination. The Commission, therefore, concludes that the theory of Sanarelli in this regard is not sustained by the facts of these cases, and offers the above probable solution of the most widely and generally observed characteristic of yellow fever, the "secondary paroxysm" characterized by a septicemia.

The theory formulated and expressed by Dr. Sternberg, U. S A., that the "germinal principle" in yellow fever is to be looked for in the alimentary tract, an opinion evidently dependent upon the well-known influence of the disease upon the organs adjacent and contributive to this tract and portions of the tract itself, as the duodenum, has been found untenable by the Commission, since there is no record of any one ever having isolated the specific germ from this canal save in the case of its presence there through some capillary hemorrhage into its lumen.

The influence of the various disinfecting agents upon the bacillus icteroides has been studied by the Commission with an eye to the practical advantages to be derived from a better acquaintance with the organism, and it is found that the organism is readily influenced by the mechanical and chemical agents in ordinary use. Cold, however, is not a factor in this process, for the organism resists the most extensive refrigeration, and no reliance can be placed on this mode of disinfection. On the other hand, the organism is very susceptible to dehydration and cannot withstand artificial drying for more than ten or twelve days, and it is very probable that its susceptibility to *frost* is due to the lessened humidity of the atmosphere at such seasons rather than to the degree of cold experienced. Sunlight is very fatal to this organism and, no doubt, is more so if the organism has lost its vitality through evaporation of its fluids as in a frosty atmosphere.

The resemblance between the bacillus icteroides in its behavior on certain media and the bacillus of hog cholera has been brought to the attention of the Commission, and it has deemed the observation that there is a possible similarity in the pathogenicity of the two organisms in the domestic hog of great importance, although its experience in the observation of the cultural similarities leads to the conclusion that they are culturally distinct; while the infection of the domestic hog, in its experience, is impossible by the method pursued of feeding the bacillus icteroides to them. However, the question being of too much importance to be determined without full data, the Commission placed under treatment a number of domestic hogs, in an environment free from suspicion of the possibility of any contamination with the bacillus cholerae suis, with a view to deciding the question of the reaction of these animals to the bacillus icteroides, administered to them in pure cultures in their food. These experiments were conducted at the United States Quarantine Station at Delaware Breakwater and therefrom it is deduced: first, that the domestic pig is incapable of infection from the bacillus icteroides when introduced through the intestinal or digestive tract; and second, that the bacillus icteroides when fed to pigs will not produce any of the lesions or intestinal symptoms of hog cholera.

CONCLUSIONS OF THE COMMISSION.

1. That the micro-organism discovered by Professor Giuseppe Sanarelli, of the University of Bologna, Italy, and by him named "bacillus icteroides," is the cause of yellow fever.

2. That yellow fever is naturally infectious to certain animals, the degree varying with the species; that in some rodents local infection is very quickly followed by blood infection; and that while in dogs and rabbits there is no evidence of this subsequent invasion of the blood monkeys react to the infection the same as man.

3. That infection takes place by way of the respiratory tract, the primary colonization in this tract giving rise to the earlier manifestations of the disease.

4. That in many cases of the disease, probably a majority, the primary infection, or colonization in the lungs, is followed by a "secondary infection" or a secondary colonization of this organism in the blood of the patient. This secondary infection may be complicated by the coinstantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life.

5. That there is no evidence to support the theory advanced by Professor Sanarelli that this disease is primarily a septicemia, inasmuch as cases do occur in which the bacillus icteroides cannot be found in the blood, or organs in which it might be deposited therefrom.

6. That there exists no causal relationship between the bacillus "*x*" of Sternberg and this highly infectious disease; and that the bacillus "*x*" is frequently found in the intestinal contents of normal animals

and of man, as well as in the urine and the bronchial secretion.

7. That, so far as the Commission is aware, the bacillus icteroides has never been found in anybody other than one infected with yellow fever; and that whatever may be the cultural similarities between this and other micro organisms it is characterized by a specificity which is distinctive.

8. That the bacillus icteroides is very susceptible to the influence injurious to bacterial life; and that its ready control by the processes of disinfection, chemical and mechanical, is assured.

9. That the bacillus icteroides produces *in vitro*, as well as *in vita*, a toxin of the most marked potency; and that, from our present knowledge, there exists a reasonable possibility of the ultimate production of an anti-serum more potent than that of Professor Sanarelli.

CLINICAL MEMORANDUM.

SUBCUTANEOUS EMPHYSEMA OCCURRING DURING THE ACT OF VOMITING.

By A. W. DUNNING, M.D.,
of St. Paul, Minn.

Mrs. C., a married woman, aged twenty-eight years, has always been in good health, has had no severe illness, and so far as is now discovered is free from tuberculosis or other pulmonary or bronchial affection. Has one child two years old, and is now four and a half months pregnant. During the early part of the present pregnancy she was troubled very much with nausea and frequent attacks of very severe retching. On May 2d, when three-months' advanced, she experienced one of these attacks, felt a sharp pain in the left side of the neck just external to the lower portion of the sterno-cleidomastoid muscle, and immediately following it there appeared an enormous swelling covering the entire side of the neck. When I was called to attend her a few hours later the neck had the appearance of a very much exaggerated case of adenitis, but on palpation it was discovered that the swelling was entirely emphysematous. By the following day it had become diffused so that crepitation could be distinctly felt over the entire left side of the face to the lower border of the orbit, and down over the clavicle to the anterior angle of the axilla. It also extended around the neck to the right side of the face (but in a less marked degree), and down the neck nearly to the points of the scapulæ. By the third day the swelling had subsided considerably, but during another attack of severe vomiting it again returned, and was even greater than before. From this time on, however, it gradually subsided, until at the end of ten days it had entirely disappeared. The only inconvenience which she suffered was a burning and uncomfortable sensation over the emphysematous area, and a feeling as though there was a large collection of gas in the stomach. She would ask her friends to strike her a smart blow between the shoulders, when she would immediately "belch wind" and be relieved for a time, when the occurrence would be repeated. For several days a distinct soreness was felt at each act of deglutition at the point where pain was felt at the outset.

I report this case simply because of the unusual occurrence of the phenomenon, never having myself seen or heard of a parallel case. I will not, attempt, however, to offer any explanation of the manner in which this phenomenon was brought about, but will leave that part of it for your consideration.

MEDICAL PROGRESS.

Inspection of the Stools.—Schutz (*Berl. Klin. Woch.*, June 26 and July 10, 1899) thinks that a more careful inspection of the stools passed in intestinal diseases would in many cases give information as to the exact seat of the lesions. The most important consideration is whether or not mucus is present. A small amount may be physiological, as that which coats hard fecal lumps. Mucus with constipated stools indicates catarrh of the large intestine. To determine from the mucus in diarrheal stools whether enteritis exists, or there is simply a dyspeptic diarrhea, is a more difficult matter. Evacuation of pure mucus without feces, and consolidation of mucus about small fecal masses, means catarrh of the lowest portion of the intestine. An intimate mixing of mucus and feces indicates an involvement of the upper part of the large intestine or of the small intestine. The presence of undigested muscle fibers, or starch granules, associated with mucus without fever, indicates disease of the small intestine. Besides these general laws, one may draw valuable conclusions from the consistence, amount, color, and smell of the mucus. In certain cases simple microscopical or chemical examinations will be necessary to determine the presence of blood, pus, bile, etc.

Why Does the Surgeon Fail to Find the Appendix?—Scott (*Bull. Cleveland Gen. Hosp.*, April, 1899) asks this question, and in order to answer it he wrote to most of the surgeons and anatomists of the United States. From the replies received as well as from a study of the literature he states that he has collected data representing 10,000 operative cases and an equal number of examinations of cadavers. In no less than twenty-nine (29) instances did the surgeon, recognized as a capable one, fail to find the appendix, although the operation was performed in the interval, whereas only five (5) times among the 10,000 observations upon the cadaver was the appendix wanting. In no one of the latter cases, however, was the examination so thorough as to absolutely prove the congenital absence of the appendix. How, then, explain the great discrepancy between the records of the surgeon and those of the anatomist? He had a case of appendicitis obliterans totalis occurring in his own practice, in which the appendix was so small and so closely bound down to the posterior abdominal wall that he would not have discovered it had it not been for an enlarged lymphatic gland which lay close beside it. Ap-

pendicitis obliterans totalis seems to him to offer a scientific explanation of the discrepancy between the observations of the surgeon and the anatomist. Obviously the former is lacking in his opportunities for making a thorough search in his care for the life of the patient. The literature records no case which is not more practically explained on this hypothesis than on the supposition of the congenital absence of the appendix.

The Origin of Pain in Gall-Stone Colic.—BERTELSMANN (*Mün. Med. Woch.*, June 20 and 27, 1899), after careful investigation of the above subject, comes to the conclusion that true colic of the gall-bladder may occur without inflammation and without obstruction. Inflammation may be the first cause of colic by stimulating the bladder to contractions. It may, however, merely accompany the same. Inflammation increases tremendously the pain caused by contraction, but contraction alone may also give colic. While admitting that colic in most cases is accompanied by inflammation the author repeats his firm belief that it may occur in a severe form without it.

Four Cases of Infantile Monstrosity in the Same Family.—HESTLE (*Va. Med. Semi-Monthly*, June 23, 1899) relates the following interesting and peculiar history: A mulatto girl, healthy and well-formed, was married to a strong, healthy negro, aged twenty-five. Her first child was stillborn at about the seventh month. It was a male and had neither arms nor legs nor auricular appendages. The hands and feet were well developed and attached immediately to the well-developed body. The following year she was delivered of a normal, healthy, female child. The third birth was of the same character. At the fourth, fifth, and sixth labors she gave birth to monsters exactly like the one at the first labor. They were all males, and the arms, legs, and auricular appendages were in each instance absent, the hands and feet being attached to the body. About the third month of the first pregnancy her brother entered her room at midnight with a living opossum, which he threw on her bed, frightening her very badly. From that time on she suffered much uneasiness lest her child should be deformed. Nothing unusual occurred during the remainder of her term. While pregnant with the second and third children she was not frightened at all. During each of the last three pregnancies she was frightened about the third month of gestation by seeing an opossum and she suffered from an almost constant fear that the child would be deformed. This fear was naturally much stronger after she gave birth to the second monster. It is well known that the legs of the opossum are very short and his feet, therefore, close to the trunk, while its auricle is rudimentary and almost invisible on casual inspection. Hestle does not attempt to explain the connection between the fright and the birth of the monsters, but considered the remarkable coincidence as worthy of note.

The Pathology of Gas-poisoning.—SMITH (*Brit. Med. Journ.*, April 1, 1899) had opportunity to make exact examination of the blood of five persons who died from gas inhalations. The inspired gas contained about sixteen per cent. of carbonic oxid. The results of examination show, without doubt, that the injurious effects of gas are directly attributable to the action of the carbonic oxid and not to the accompanying poisoning. The carbonic oxid is poisonous on account of it affinity for hemoglobin, this being almost 300 times as great as the affinity of oxygen for hemoglobin. In one case the carbonic-oxid saturation of hemoglobin was found as high as eighty-three per cent. The temperature of the body is an important factor in poisoning by carbonic oxid, and the poisoned person should be warmed as quickly as possible by internal and external means. Sometimes the temperature rises very much just before death and this is an indication that the heat-centers have been injured by the lack of oxygen. If the blood absorbs over thirty per cent. of carbonic oxid, slight muscular efforts, such as walking, produce severe headache, so that the patient reels like a drunken man. The patient should be kept absolutely quiet in order to avoid loss of oxygen. Sometimes the carbonic-oxid intoxication produces convulsions and tetanic spasms sufficient to cause the death of the patient several days after he has been removed from the effects of the gas. Pneumonia may also follow, and cardiac affections may arise to interfere with recovery.

THERAPEUTIC NOTES.

Cerebrospinal Meningitis Treated by Lumbar Puncture.—CUTHBERTSON (*Chicago Medical Recorder*, June, 1899) reports three cases of cerebrospinal meningitis occurring in the First Illinois Cavalry, one of which was treated without lumbar puncture and the patient died, while the other two patients were treated with ice to the head and spine, fly blisters on the neck, $\frac{1}{40}$-grain doses of mercuric bichlorid hypodermically, and lumbar puncture. Consciousness returned some hours after the withdrawal of a dram of cerebrospinal fluid, and though recovery was slow in each case it was complete. One patient's progress was retarded by numerous abscesses which formed at the sites of the hypodermic injections.

A Chinese Remedy for Amenorrhea.—HIRTH (*Munch. Med. Woch.*, June 6, 1899) introduced into Germany a remedy for amenorrhea which for more than fifteen centuries has found favor in China in the treatment of female disorders, but especially for amenorrhea and dysmenorrhea. The extract is made from the root of a plant called tang-kui, and as it contains nothing which is poisonous or capable of producing abortion, tests were made of its virtues by MUELLER (*Munch. Med. Woch.*, June 13, 1899) in fourteen cases. In two of these there was no appreciable result. In all of the others, although the medication was combined with hydrotherapy, massage, and the administration of iron, Mueller thought that he could observe the good effect of the drug; that acting as a general tonic, it also brought on the flow at the correct period, besides increasing it and making less severe the premenstrual pain. The refined extract as prepared by Merck is called eumenol.

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THE PLAGUE IN EUROPE.

Contrary to the many apparently trustworthy assurances, of experienced sanitarians and well-known bacteriologists, that the civilized world was safe from all danger of the plague in modern times, and in spite of all the precautions taken against it, the plague has succeeded in finding its way into Europe. The occurrence of bubonic plague at Alexandria under circumstances that made its further spread extremely probable was the first serious shock to these complacent prognostics. Nearly one hundred cases have occurred in that great commercial mart so intimately connected with the civilized world, and the end is not yet. The plague at Oporto proves in a similar way not to be merely the occurrence of a few cases among seafaring people. On the contrary, the disease has obtained a foothold in the town itself. Some cases are reported from Lisbon, and the town of Figueira has developed an outbreak of the disease. Various cities in Spain are said to harbor cases, some of which have proved fatal.

It is to be hoped that these rumors are, to say the least, exaggerations, figments of reportorial imagination during the "dry" season, but the conviction is borne in upon us that the quarantine precautions thus far taken are entirely inadequate. It is interesting to note that the *British Medical Journal* prophesied some time ago that the plague would almost surely reach Europe. The course of the disease in the Far East is not unlike that of epidemics that finally became almost universal. Certain it is that the present spread of the disease is sufficient to arouse the medical world, at least, from its fancied sense of security.

In India where, despite all the sanitary, hygienic, and prophylactic measures that have been taken, it has continued to rage for nearly five years, the plague is now actively spreading at the following places: At Hong Kong, where from thirty to forty deaths and as many new cases are being reported each week. Complaints are heard from Canton of the spread of the disease from the island to the mainland, and the threatened invasion of the city of Canton itself. Plague has existed for some time on the island of Madagascar, and has lately, according to a French official announcement, spread to the neighboring island of Reunion, where over thirty new cases, and nearly as many deaths per week, were reported as occurring at the end of July and the beginning of August. In German East Africa, where Koch reported that he found an endemic focus of the disease two years ago, the disease is raging with great virulence. At Bukota, East Africa, out of a native population of 715, there have been during the past year 467 deaths from plague.

Here in America, notwithstanding the existence of plague at Alexandria and at Oporto, our danger, as we have pointed out before, seems to be rather on our Western coast. The increased commerce of our Western seaports with the East and the existence of plague at so many points make imperative the most thorough and efficient quarantine throughout our Western coast. Europe stands between us and danger from the East; self-preservation must arouse her soon to efficient work.

THE LOCAL ERADICATION OF MALARIA.

We noted in a recent issue the fact that a party from the Liverpool School of Tropical Medicine, headed by Surgeon-Major Donald Ross, was about

to start for South Africa. The object of the expedition is to demonstrate the feasibility of the local eradication of malaria in some of the South-African villages. Dr. Ross in his inaugural address at the Liverpool School (*British Medical Journal*, July 1, 1899) avers that they have good hope of accomplishing this purpose which if successful will revolutionize the conditions of living in tropical countries.

Dr. Ross has shown that the intermediate host of the malarial hematozoon is the mosquito; not any or all mosquitoes, but a particular genus. The ordinary domestic mosquito, for instance, *culex pipiens*. does not carry malaria. In Dr. Ross' experience it has always been the rarer genus *anopheles* in whose tissues he has been able to demonstrate the malarial parasite. In the mosquitoes of the genus *culex*, though placed under the most favorable conditions for carrying malaria, he has never been able to find traces of the parasite. These observations are confirmed by the results of investigation in Italy, where Grassi, Bignami, and Bastianelli have succeeded in cultivating the germs of human malaria in mosquitoes but always in individuals of the genus *anopheles*.

Now it happens that the breeding-places of *anophelidæ* are stagnant pools usually limited in extent. They never breed successfully where there are minnows since minnows devour the larvæ with avidity. They breed especially in water-tanks, small reservoirs, in puddles, in small undrained swamps where fish never penetrate. Their larvæ were found by Ross in India in tubs and barrels and even in an old abandoned boat. The eradication of their breeding places ought not to prove a difficult task if seriously and intelligently attempted. Ross admits that to get rid of the ordinary mosquito would be a hopeless undertaking but he considers that the elimination of the malarial bearers from a neighborhood may prove comparatively easy.

The prospect opened up by his observations is certainly encouraging. The means he proposes for the eradication of malaria are comparatively so simple that one is tempted to think that in certain localities of our own country, or in some of the villages of Cuba and Puerto Rico, the plan of draining the small bodies of stagnant water might help in the demonstration of the truth or falsity of his views. Ross himself calls attention to a fact that has often been noted before with regard to the distribution of malaria, namely, that certain, sometimes very limited, parts of a malarial district are much more affected than others. It is evident that narrow local conditions are the cause of this, and Ross' hope as to local eradication of the disease by simple drainage would seem not to be unfounded.

MORE LIGHT ON THE PATHOGENY OF YELLOW FEVER.

WE published two weeks ago in our editorial on "Sanarelli and the Pathogenic Rôle of the Bacillus Icteroides" the announcement that the Commission of Medical Officers of the Marine Hospital Service, detailed by authority of the President of the United States to investigate in Havana the nature of yellow fever, had declared that Sanarelli's bacillus icteroides was undoubtedly the cause of the disease. The information came to us through Sanarelli himself, with whom the officials of the Marine Hospital Service had been in communication, and anticipated all publication of the Commission's results in this country. We are glad, however, to be able to present our readers this week with the details of the Commission's report as it contains statements of great interest.

There seems to be little room for doubt as to the pathogeneity of the bacillus icteroides in yellow fever after reading the account of the observations made by the Commission. In every one of fourteen cases diagnosed clinically as yellow fever the microorganism described by Sanarelli was isolated. It was not found in a single case of illness that had not the clinical symptoms of yellow fever, though it was looked for in a number of cases. Culture observations and experiments show that the bacillus isolated from yellow-fever cases in Cuba is the same as that found in yellow fever in New Orleans and in Brazil. The identity of the disease in all these places is absolutely determined.

The Commission announces definitely its opinion that the infection of yellow fever takes place through the lungs. This conclusion will come, we think, as a matter for distinct surprise even to those most familiar with the disease. Gastro-intestinal and hepatic symptoms so crowd the field of vision in severe cases of the disease that the prevailing impression that yellow-fever organisms began and ran

their course in the digestive tract was most natural, and has been the accepted theory.

In following the literature of yellow fever in South-American countries we have pointed out the fact, noted first in Brazil, that it was especially among molds that the bacillus icteroides grew most luxuriently. Last week we quoted some further work of Dr. de Lacerda on this subject with Sanarelli's Comments, that this symbiosis with molds would serve readily to explain the fact, now pretty effectually established and generally admitted, that yellow fever can be an air-borne disease. Primary infection through the respiratory tract becomes still easier to understand under these conditions.

The work of the Commission is especially interesting in its relation to the claims made by Dr. Caldas, a correspondent in Brazil from whom we print, in this issue, a letter with an abstract of a report made by him to the Academy of Medicine in Rio Janeiro. The United States Commission found that as regards most features of their pathogeneity for animals it was impossible to distinguish from one another, Sternberg's bacillus *x*, Havelburg's bacillus, the ordinary bacillus coli communis, and Sanarelli's bacillus icteroides. The "*mode of death*" from the toxins of these various bacilli when injected into animals "*was the same in kind*," the toxins differed only in intensity, and the toxin of the bacillus icteroides was the most potent. The Commission, it is true, found reasons later that justified it in separating Sanarelli's bacillus from the other micro organisms which are all evidently of the colon group, but their original observations remain of interest.

Now Dr. Caldas, our Brazilian correspondent, claims that the bacillus icteroides is a modification of the colon bacillus, which develops when that micro-organism is grown in the presence of certain molds, especially penicillium and aspergillus. We are, of course, here in the presence of that *crux* of present-day bacteriology, the question of the possibility of the transformation of a non-pathogenic into a pathogenic bacillus, or of one form of pathogenie into another. It is to be hoped that the present communications and the workers they stimulate may serve to throw some light on it, for it is one of the most important questions that bacteriology has to face at the present time.

THE "INDEX MEDICUS" AND THE TWO ENGLISH-SPEAKING MEDICAL ASSOCIATIONS.

It has been definitely announced that unless some sure means of providing for its financial support could be secured the *Index Medicus* must cease publication. This declaration has been greeted with sincere expressions of regret from every quarter of the medical world.

Various methods have been discussed in Germany by which a periodical to replace it might be established, to be published, of course, in the German language. The editor of the well-known *Gazette Medicale de Paris* thinks that the periodical to replace the *Index Medicus* should be published in French, and he has recently made an eloquent appeal to French medical men for funds for that purpose.

It would be unfortunate, indeed, if this great help to the medical profession everywhere, as well as in England and America, should cease to be published in English. An appeal has already been made to the American Medical Association (at the recent Columbus meeting) to take upon itself the expenses necessary for the publication of the *Index*. *The Medical and Surgical Review* of London suggested recently in an editorial that the *Index* was a matter of interest to all English-speaking medical men, and that the British Medical Association should unite with the American Association for the worthy object of guaranteeing it financial support. The suggestion is an eminently fitting one, and seems most opportune. While the American Medical Association is well able to take upon itself the pecuniary burden of the *Index* should it see fit, still it would be a most graceful act for the British Medical Association to offer to share that burden.

We were of the impression that this matter of the *Index* was to be formally presented to the British Association for action at the recent meeting. Published accounts so far give us no inkling on the subject.

We hope that the opportunity was not neglected, and shall confidently look for the heartiest cooperation in this matter from the two Associations—a cooperation that will do much to draw English-speaking medical men closer together, while serving to perpetuate a most useful and labor-saving work for the medical profession of the world.

ECHOES AND NEWS

Beri-Beri in Mississippi.—Two cases of beri-beri have been reported at Biloxi, Miss. The disease has heretofore been practically unknown in that region.

Post-Mortem Honors.—Some time after his death the Liverpool Samaritan Hospital for Women elected the late lamented Lawson Tait consulting surgeon to the hospital.

A Tablet in Memory of Dr. Love.—The Board of Governers and the medical and surgical staff of the Mountainside Hospital in Montclair have had placed on the walls of the hospital, in the main corridor, a tablet in memory of the late Dr. Love, first president of its medical and surgical staff.

Dr. Frank Donaldson Appointed Assistant-Surgeon of Volunteers.—Dr. Frank Donaldson of New York, Assistant-surgeon to the "Rough Riders," who did such excellent work in caring for the men at Montauk Point, has been appointed Assistant-Surgeon of Volunteers, and expects soon to go out to the Philippines.

A Hospital at Des Moines.—A hospital will be built this fall under the auspices of the Methodist Church, at Des Moines, Iowa. It will be conducted on non-sectarian lines. The buildings will cost $100,000 and an endowment fund of $100,000 will be provided. The Methodist Conference of Iowa now pays more than $10,000 annually to hospitals outside the State.

Another Stomach Removed.—On June 9th last Kocher removed the entire stomach of a woman, aged forty, who had cancer of the pylorus, uniting the duodenum and esophagus and suturing the abdominal wound over a small glass drainage-tube. The patient lived three and a half days after the operation. Autopsy showed some peritonitis as a result of necrosis of a small portion of the wall of the transverse colon.

Obituary.—Dr. William D. Hartman, who had been in active practice for some sixty years, died at Westchester, Penn., last week at the age of eighty-four. He was well known for work in conchology and entomology. His writings, especially on mollusks, are well-known in Europe as well as this country. He was a member of the Pennsylvania State Medical Society and ol the Chester County (Pa.) Medical Society.

The Plague in Italy.—As we go to press there are persistent rumors though they are being denied, that the bubonic plague has found a foothoid in the south of Italy and in Sicily. A number of cases, some of them fatal, are said to have occurred in Naples and Palermo. At Oporto in Portugal the situation is not so threatening as it seemed last week, but few new cases are developing and most of them are of mild type.

Tuberculosis in Italy.—Senator De Renzi, in a recent speech at Naples, declared that tuberculosis has cost Italy two million lives during the past thirty years, and last year alone (1898) killed fifty thousand persons. The Duchess Ravaschieri has presented to the Neapolitan Home for Incurables her fine villa at Pozzuoli as a sanatorium for tuberculosis patients. It is said that the villa is most favorably located, and could not have been better fitted internally for a sanatorium had it been specially built for that purpose.

The Twentieth Century No-Horse Chaise.—A writer in the *Echo medicale du Nord* compares the expense to a country doctor of a team and that of a motor tricycle. The figures are real, being taken from the actual experience of a physician of Buis. Putting the initial expense of two horses with necessary harness and carriages at $660, he estimates the running expenses at $480 a year. The tricycle cost him $500, and its keep cost $150 annually. To this sum must be added $30 more which the physician spent for carriages in very bad weather. With the motor tricycle he traveled 20,000 kilometers (12,427 miles) over roads decribed as "terrible," without a single serious accident.

A Congress for Dispersing Hailstones by Artillery.—An assemblage under this title is shortly to meet at Casale Monferrato, Italy, and a large number of medical men, engineers, agriculturists and meteorologists have announced their intention to read papers and to participate in the discussions, among which the question above indicated is down for consideration. It seems that there have been an unusual number of fatalities in Italy during the present summer from lightning. The storm cloud from which the lightning comes is almost invariably charged with hailstones, and it is now suggested that the bombardment of such clouds hitherto successful in protecting vineyards and olive plantations, might also lessen the danger from lightning.

Inseparable Twins.—Toward the end of July a pair of joined twins somewhat resembling the Siamese twins were presented before the Academy of Medicine of Rio Janeiro, Brazil. They were united by a band of soft tissue at the upper part of the abdomen, posteriorly and laterally. The members of the Academy agreed that an operation for the division of the band seemed feasible. All the important organs of the two girls were fully developed and seemed independent. The operation was attemped July 29th in the presence of many of the most distinguished surgeons of Rio Janeiro. Incision into the band revealed the fact that the kidneys of the twins extended through it and that its division might prove fatal. The operation was abandoned after the exploratory incisions and no evil effects have followed from it.

Typhoid Fever in Paris.—As Paris is to be crowded next year with visitors from all over the world her sanitary condition is a matter of universal interest. The present state of the city with regard to typhoid is not encouraging. It was thought that the supplying of all quarters of the city with water from municipal sources would lead to the gradual diminution and practical disappear-

ance of the disease. The water-supply is now in working order in practically all parts of the city, but the expectations as to typhoid have been disappointed. Professor Thoinot at a recent meeting of the Société des Hôpitaux reported that there had been in 5⅓ months from January 1st to June 10th, 248 deaths from typhoid. This is 9.8 per 100,000 and this is as many as occurred during any twelve months between 1894 and 1898. Thoinot claims that the increase of typhoid is due to neglect of the water-supply and the use in certain quarters of the city of other than the regular city water.

A New Law for Canadian Barbers.—In the Province of Quebec, Canada, a law goes into effect on September 1st, according to the provisions of which no barber is allowed to take up the practice of his profession—or begin business—until he has passed an examination before the Graduate Barbers' Union and received a certificate from the Barber's Association of the Province. Every candidate must satisfy the Association that he has served for three years as an apprentice at the trade. He must also bring a certificate from a physician in good standing, that he is suffering from no contagious disease. Besides a rigid examination as to his ability to fulfil the manifold duties of the *tonsorial artist*, the candidate is obliged to answer a series of questions with reference to the hygienic precautions necessary to prevent the spread of any contagious disease from one customer to others. This quizzing includes especially the sterilization of instruments and towels and the proper use of toilet preparations and instruments, so that by no possibility can they become conveyors of infection.

Major Russell Harrison's Illness.—Major Russell B. Harrison, the son of ex-President Harrison, who is Inspector-General of the United States troops at Santiago, Cuba, is reported suffering from yellow fever at Cristo, the point to which headquarters were removed from Santiago when yellow fever became epidemic among the troops quartered in that city. Recent reports seem to indicate that Major Harrison is on the road to recovery though at first it was reported that he was critically ill. His was one of President McKinley's appointments from civil life during the war that caused great dissatisfaction. Major Harrison had had nearly ten-years' military experience in all ranks of the National Guard of Indiana up to lieutenant-colonel and he did much at once to disarm public comment by his success in maintaining discipline when he was appointed provost-marshal of the Seventh Army Corps at Jacksonville, Florida. His work in the same capacity in Havana gave great satisfaction and at Santiago he was looked upon as a most capable and efficient officer. The favorable reports of his condition are especially welcome.

A Sanatorium for Consumptives versus a Man of-War.—Some time ago the Portuguese Minister to Brazil suggested a contribution from the Portuguese residents of that country in order to make a present of a warship to the mother country. Some 500,000 milreis (about $275,000) were subscribed. The sum was, of course, totally inadequate for the construction or purchase of a modern warship of any importance. Queen Amelia of Portugal who is greatly interested in the health of her people, so much so that on more than one occasion it has gone the rounds of the medical journals (as our readers may remember) that she had a diploma in medicine, now proposes that the money shall be used for the building and furnishing of a sanatorium for consumptives. It is said, however, that there is some objection to this on the part of the subscribers. We can only commend Queen Amelias' humane thoughtfulness. It is in line with the efforts that are being made by all the European governments and it is a significant index of the temper of the modern rulers and their feelings toward their people. We sincerely hope that the charitable purpose of the Queen will not be thwarted.

The Plague at Various Points.—The bacteriological examinations by the Pasteur Institute of material sent from Spain leaves no doubt that the disease spreading in Portugal is the true Eastern bubonic plague. In India, according to the *British Medical Journal*, the plague continues to spread at Poona to an alarming extent. During July 29th and 30th, 360 cases occurred, and 317 deaths. Five Europeans are numbered among the victims: Lieutenant MacLeod, Miss O'Gorman. Mr. and Mrs. Stephens, and Miss Bartley. Of these, the last named is reported to have died. The largest number of cases have occurred in the city, but the cantonment is also seriously stricken. The dryness of the season is causing great distress, and, as the meteorological conditions indicate the close of the monsoon, the prospects are considered ominous. Plague has reappeared in epidemic form in Bangalore, and a great exodus of the inhabitants is reported. In Persia plague exists and is spreading, while the fanaticism of the inhabitants prevent the enforcement of sanitary precautions that would limit the spread of the disease. The mullahs and the people of Bushire telegraphed to the Shah on July 25th, demanding the abolition of the plague measures. The populace have wrecked the telegraph wires, and so threatening is their attitude that the British Consul has advised his countrymen to avoid the native town. In Egypt the outlook as to the eventual suppression is more hopeful than it was. During the week ending August 2d, 6 cases of plague occurred in Alexandria. Since the beginning of the outbreak 37 cases have proved fatal, 39 have recovered, and 4 cases remain under treatment. The sanitary authorities have the work well in hand, and no effort is being spared to eradicate the disease. From Hong Kong the latest news is much more encouraging than recent reports have been. The *British Medical Journal* says "a marked decrease of plague in Hong Kong is reported, during the past week only 30 cases and 30 deaths being officially reported. It is only two weeks ago since we had to report over 100 deaths a week. The officials hope that the outbreak will soon entirely disappear." At Mauritius the state of affairs has grown worse and the type of disease there is very virulent. A recent telegram has been received by the British Colonial office from the governor of the island, reporting the

occurrence of 52 cases of the disease during the first week in August, of which 37 have proved fatal.

OBITUARY.

PROFESSOR BUNSEN, the distinguished chemist and, at least, honorary member of the medical profession, died at Heidelberg, August 16th, in the eighty-ninth year of his age. His father was the distinguished Professor of Occidental Literature at the University of Göttingen at the beginning of the century, and a great antiquarian who had many friends in England. Professor Bunsen is most popularly known as the inventor of the Bunsen burner and the Bunsen electric battery. He has been Professor of Chemistry at the University of Heidelberg since 1852. He organized the magnificent chemical laboratory of the University and made its courses in chemistry the best known in Europe. It was here in conjunction with Kirchhoff, the Professor of the Physical Sciences at the same University, that he made the great scientific discoveries of the spectroscope and the possibilities of spectrum analysis. Nearly sixty years ago he announced before a meeting of the British Association for the Advancement of Science at Glasgow his discovery of Kakodyl, a compound containing over fifty per cent. of arsenic and yet possessing no poisonous properties. It is only during the last year or two that the possible alterative value of this compound has been developed, especially by French physicians. He was the joint discoverer with Berthold of the hydrated oxid of iron as an antidote for arsenic.

Medicine has lost in Bunsen one who has made very important, practical contributions to the century's advances in medical matters. He received the honorary degree of M.D. in 1875.

MEDICAL MATTERS IN NEW YORK.

A LIQUID-AIR CREMATORY — ARRESTED FOR PRACTISING MEDICINE ILLEGALLY—A NEW HOSPITAL—DR. WOODBURY TO WITNESS GERMAN ARMY MANEUVERS — A TELEPHONE TALK — EXPERTS ON CHARITY—OBITUARY.

A COMPANY has been formed in this city for the purpose of cremating dead bodies through the agency of liquid air. The crematory will be erected near Nyack.

Dr. A. M. Petrella of 178 Sand street, Brooklyn, was arrested on August 19th for practising medicine illegally, in that he had failed to register with the Health Board. This is his second offense. He is said to be a graduate of the University of Naples and to have been at one time Mayor of Padua, in Italy.

The Beth Israel Hospital Association, by its President, Harris Cohen, has filed plans for a six-story and basement brick fire-proof hospital building, 100x78 feet, which will be erected on the northwest corner of Jefferson and Cherry streets, at an estimated cost of $100,000.

The German Emperor has given Dr. John McG. Woodbury of New York, recently appointed by President McKinley United States Commissioner to investigate the medical methods of the German army, permission to witness the maneuvers of the Sixth Army Corps at Silesia in September. The doctor will thus have an opportunity to inspect the practical operation of the medical department of the German army.

Dr. Brown, a colleague practising in this city, met with one of those contingencies which probably very few men have the good fortune never to have experienced. Funds were low, and collections had to be made. So he made a list of those of his patients whose accounts were very long overdue. Among these was one Mr. Jones, who owed $25, and whom Dr. Brown telephoned as follows:

"Br-r-r r-r." "Hello!"

"Is Mr. Jones in?" "Yes."

"Please tell him Dr. Brown is at the 'phone."

Presently came Mr. Jones, who began cheerily: "Hello, old man. What's up?"

"Can you send me $25? I—— "

"Why, certainly, old man ——"

"I thank you kindly."

"Don't mention it, old boy. Say the word, and we'll double it. Where'll I send it?"

"To 411 West 44th street.

"Where?"

"411 West 44th street."

A pause.

"Who is this?"

"Dr. Brown."

"Oh. I thought this was my friend Brownell. Just excuse me a moment, Doctor, until I look at my checkbook."

Another pause.

"I am really very sorry, Doctor, but on examination I find my account at the bank overdrawn. At the very first opportunity, etc., etc."

Comptroller Coler has written to the State Charity Aid Association asking for suggestions in line with a general reform of the present system of appropriating public money for charity. The Association appointed a committee consisting of George F. Canfield, Charles S. Fairchild, Gertrude S. Rice, Alfred T. White, and Homer Folks to investigate the subject and prepare a reply. The committee has prepared a complete plan for dealing with the question which is embodied in a long letter sent by the Association to the Comptroller in answer to his request.

It is recommended that all appropriations of public money to private charities should be made in the general budget, and that the excise and license funds should be paid into the general fund for the reduction of taxation. No appropriation should be made for the support of any person until the city's Department of Public Charities has investigated the case and reported that the person in question is properly a public charge. All payments should be made on a per-capita basis, and public money should not be paid to private institutions in a lump sum. All institutions should receive the same rate of payment for the same class of inmates.

It is recommended that "appropriations to dispensaries might wisely be discontinued, though, in order to prevent

hardship, each institution might receive in 1900 one-half the amount received by it from city funds during 1899." If, however, it should be decided not to discontinue appropriations to dispensaries, the following regulations are suggested:

"That no new dispensaries be added to the list receiving public funds.

"That no dispensary should receive in any year from public sources more than one-half the amount received by it during the preceding year from voluntary contributions, nor, in any event, should it receive more in one year than it received in 1899."

When the city maintains institutions in its own Department of Public Charities for special classes of cases, and these institutions are not filled, the city should not pay for the same class of cases elsewhere.

The private institutions that are now receiving city money are divided into eleven classes and the amounts they will receive this year are as follows:

	Number of Institutions.	Amount.
Children's Institutions	51	$1,665,723.76
Infants' and Foundling Asylums	7	551,050.18
Maternity Hospitals	12	54,822.78
Hospitals	60	271,550.40
Dispensaries	33	37,904.35
Reformatories for Women	6	40,604.08
General Relief Societies	22	19,250.70
Homes for the Aged	15	20,796.32
Corporate Schools, mandatory	28	205,000.00
Institutions for Defective Children	15	206,197.33
Miscellaneous	33	176,723.91
All Institutions	282	$3,249,623.81

It is strongly urged that the city should keep a close watch and check upon all private institutions receiving public money.

Dr. Andrew K. Smith, a retired surgeon of the United States Army, died suddenly on August 15th. The doctor was a native of Connecticut. He was appointed Assistant Surgeon in 1853. He was retired in 1890 after "long and faithful service," with the brevet of Lieutenant-Colonel. Since his retirement he has practised medicine in this city.—Dr. James L. Kortright, formerly a resident of Brooklyn, died on August 15th at Middleton, whither he had gone because of pulmonary disease. Up to a year ago the doctor was one of the visiting staff of St. Catherine's Hospital, Brooklyn. Dr. Nathaniel Wilson Leighton died at his home in Williamsburg on August 15th. He was sixty-six years old. He was physician and surgeon at the Kings County Hospital in 1859 and later at the Eastern District Hospital. During the Civil War he fought for three years and saw service in many engagements. After the war he practised in Brooklyn and was United States pension examining-surgeon from 1866 to 1885. Dr. Leighton was a member of the Kings County Medical Society, the New York Medical Association, and the American Medical Association. He was a delegate to the International Medical Congress of the Pan-American Congress.—Dr. Tunis L. Schenk died on August 16th at his home in Brooklyn. He was graduated in medicine in Syracuse and was for some time Chief Surgeon and Physician at the Kings County Hospital. Dr. Schenk's ancestors had been long established in Kings County.

The Health Department of New York City makes the following report for the week ending August 19, 1899: Measles, 106 cases, with 7 deaths; diphtheria, 136 cases, with 25 deaths; laryngeal diphtheria (croup), 7 cases, with 5 deaths; scarlet fever, 61 cases, with 2 deaths; chicken-pox, 5 cases; tuberculosis, 181 cases, with 138 deaths; typhoid fever, 61 cases, with 17 deaths; cerebrospinal meningitis, 6 deaths.

MEDICAL MATTERS IN CHICAGO.

ANNOUNCEMENT OF CHICAGO COLLEGE OF PHYSICIANS AND SURGEONS—VITAL STATISTICS—INVESTIGATION AND VERDICT IN THE FLANDERS CASE—BLASTOMYCETIC DERMATITIS—STATE SANATORIUM FOR THE TREATMENT OF POOR CONSUMPTIVES.

THE eighteenth annual announcement of the College of Physicians and Surgeons of Chicago, the School of Medicine of the University of Illinois, sessions of 1899-1900, differs slightly from its predecessor. The fall term opens Monday September 18, 1899, with the presentation of diplomas and certificates of scholarship for admission to the college. April 18, 1900, is the day set apart for the commencement exercises. On April 19, 1900, is the opening day of the last spring term that will be given by this college, it having been decided that the best interests of the students will be conserved by conducting a continuous course. Beginning the first Monday in September, 1900, the work of the college will be continuous. The collegiate year will be divided into three terms of four months each, beginning respectively the first Monday in September, the first Monday in January, and the first Monday in May, and called the Fall, Winter, and the Summer terms. Each term will consist, as nearly as possible, of a session of sixteen weeks.

Each student will be required to attend two terms of four months each, in order to receive credit for a year's time. A student may receive credit for no more than two-terms' attendance in any calender year. However, a student may attend a third term in any year, provided he has the permission of the Dean and the written consent of his physician, for which attendance he will receive no credit for the time, but during which he may receive credit for work done. Four-years' time, that is, attendance upon eight full terms, will be required for graduation. The shortest interval between a student's matriculation and his graduation cannot be less than three years and eight months.

In addition to the change to the continuous course, the requirements for admission have been materially increased, necessitating a higher degree of knowledge and ability for one contemplating the entrance to the medical profession

According to the weekly bulletin of the health department, the one satisfactory feature of the public health situation continues to be the low relative rate of infant mortality. At this season of the year deaths under one year of age usually average more than one-third of the

total number of deaths. During the week ended July 15th, the second week of the volunteer medical work among the young of the congested wards, the total deaths were 559, of which number 216, or 38 per cent., were of babies under one year of age. In the succeeding weeks the proportions have been as follows: Week ended July 22d, 36 per cent.; week ended July 29th, 31 per cent.; week ended August 5th, 29 per cent. Last week, August 12th, of 490 deaths there were 134 of children under one year, or 23 per cent of the total.

It is suggested in the bulletin that these figures show the value of the labors of the volunteer physicians and afford a conclusive argument for making these midsummer sanitary and medical inspections a permanent feature of public health work.

In our last letter to the MEDICAL NEWS (August 12th, page 214) we referred to the death of a Mrs. Flanders, the victim of "divine" healing. Since then an investigation has been conducted by Coroner Ebbe. The verdict of the Coroner's jury was to the effect that Mrs. Flanders died "from peritonitis and puerperal septicemia at St. Luke's Hospital, caused by criminal negligence and malpractice on the part of De Witt C. Holmes and Mrs. H. Bratz." A mittimus was immediately issued and Holmes and Bratz were securely placed behind bars. The case of the State Board of Health *versus* Mrs. Bratz was tried before Justice Everett August 16th, and after hearing much evidence and arguments, Mrs. Bratz was fined $100 and costs for practising medicine without a license, finding that the woman had given medical attention to Mrs. Flanders under the guise of faith cure. Notice was given by the defense that an appeal will be taken to the Circuit Court. It is believed that the outcome of this case is but the preliminary skirmish for instituting other law suits having for their object the extirmination of Dowieism. Dowie's followers consist largely of hysterical women and ignorant, feeble-minded men.

At a meeting of the Chicago Medical Society, Drs. James N. Hyde, Ludwig Hektoen, and Arthur D. Bevan contributed a joint paper on blastomycetic dermatitis, in which they reported a very interesting and instructive case. R. B., aged fifty-seven, day laborer, resident of Chicago and married, presented himself September 30, 1898. He was a native of Holland and came to America in 1892. Mother, and one brother at forty-eight, died of consumption; three sisters also died of the disease. Patient had six children of his own, four living and in good health; two dead from causes unknown. He weighed 99 pounds, a decline from his average weight of 146 pounds. He had been a heavy drinker. About five years ago a small reddish spot appeared on the right leg somewhat below the knee. This gradually extended until it covered practically the anterior surface of the limb and developed into a tender, painful, and hemorrhagic sore somewhat resembling an ulcer. Eventually, under treatment, healing occurred over the entire affected area with the exception of a split-pea-sized patch on the inner aspect of the leg between the knee and the ankle. The result was the production over the region named, with the single exception of the unhealed patch, of a thin, broad, cicatriform tissue, quite superficial, insensitive, and in places scaling. Between one and two years ago the left thumb was found to be involved in a morbid process resembling that first seen upon the leg, a process which by gradual extension from the site of original implication produced a reddish patch well defined in outline, with a bluish-red areola and a decidedly verrucous aspect covering the dorsal face of the left thumb quite as far as the nail border, and also the dorsal surface of the left hand to a point somewhat above the line of the wrist. This was dull-reddish in color, sharply defined in outline, having a peculiar bluish-red border extending about four millimeters away from the edge of the affected area. Body of the patch was made up of an elevated mass of infiltration with a verruciform development of fine, pinhead-size papillæ projected externally.

Dr. Bevan placed the patient on iodid of potassium with the result that the sore on the leg healed, and such material diminution in the size of the patch on the hand occurred with such marked amelioration of all the symptoms that the question of operative interference was for the time set aside. Patient has had exacerbations of his trouble during the intervals when the iodid has been discontinued.

The authors say: "We know that the lesions of actinomycosis sometimes are relieved by the administration internally of iodid of potash. In the light of present experience we now know that blastomycetic affections of the skin sometimes are thus benefited. There is suggested here an interesting possibility or probability that many of the cases heretofore grouped under the known and common forms of granulomata, *i.e.*, syphilis and tuberculosis, or cases mistaken for epithelioma and treated as such are, in fact, due to as yet unknown or little known germ-forms, protozoa, yeast-fungi, or bacteria, and further investigation in this line may lead to the solving of the great problem of the etiology of malignant growths.

"The surface of the skin is covered by an imperfect horny layer of varying thickness, and also by polymorphonuclear leucocytes. In places small abscesses have broken through the horny layer. The striking feature is the hyperplasia of the epithelium in the form of variously shaped branching downgrowths from the interpapillary processes. In many places the picture greatly resembles a squamous-celled carcinoma. Numerous focal collections of leucocytes and miliary abscesses are found in all parts of the epithelial proliferations; in these abscesses we find the organism peculiar to the process; some of the abscesses contain multinuclear giant-cells of the tuberculous type. The tissue between the epithelial downgrowths presents acute and subacute inflammatory changes, but only few characteristic miliary abscesses."

The organisms are found only in the miliary abscesses in the epithelium and always outside of the cells; they are best stained by methylene blue and average twelve mikrons in diameter; they are round or oval, surrounded by a distinct capsule from which the finely vacuo'ated or granular protoplasm is separated by a narrow, clear zone.

The Illinois Society for the Prevention of Consumption

is preparing plans for the establishment of a State sanatorium for the treatment of consumptives, which it will ask the next Legislature to build. The plans are based on the announcement of Dr. J. A. Egan, Secretary of the State Board of Health, that the Board, after investigating the advisability of such an institution, reports favorably.

The fundamental purpose of the project is to provide means for the treatment of the poor who are disabled by the disease. The scheme is the idea of Health Commissioner Arthur Reynolds. Governor Tanner has indicated his intention of supporting it and of approving the purpose of the society in asking for an appropriation of $500,000 with which to build the sanatorium.

The report of the State Board of Health, which is in course of preparation, will state that Illinois stands eighth in the list of States in the proportion of consumptive citizens. It will assert also, that most of the consumptives are poor people who live in the country and cannot afford to attend private hospitals. The hospital at Dunning is declared to be inadequate for taking care of the poor consumptives in Cook County. The result of the investigation is summed up as follows: There are thousands of tuberculous persons inhabiting the tenement districts of the larger cities, and also distributed throughout the State, unconsciously disseminating the germs of disease among their own kin, friends and neighbors, and thus jeopardizing the public health. It is believed that many such afflicted persons are curable if properly cared for, and, aside from a humanitarian view, that the restoration to health of disabled breadwinners and protection to communities from infection by tuberculous patients would be of great financial benefit to the State.

CORRESPONDENCE.

YELLOW FEVER, AN INFECTION PRODUCED BY MALIGNANT COLON BACILLI.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I have the honor to send you with this a monograph of mine on the etiology and serum-therapy of yellow fever. According to the conclusions that I have reached you will see by this publication that I do not recognize the specificity of Sanarelli's bacillus in yellow fever. My researches seem to point rather to conclusions that this disease is a form of infection with colon bacilli, rendered malignant by special circumstances; that it is, in a word, a form of colon bacillemia (French, coli-bacillose).

Seeing the interest the MEDICAL NEWS takes in yellow fever I have thought that you would be desirous of giving your numerous readers the opportunity to know my conclusions. I enclose a communication on this subject presented by me some time ago to the National Academy of Medicine of Rio Janeiro, Brazil, and to the Pasteur Institute of Paris and remain

Yours etc.,

DR. PHILLIPE CALDAS.

RIO GRANDE DO SUL, BRAZIL, July 14, 1899.

[Dr. Caldas' inclosure is interesting because it is a serious and, to the eyes of its author at least, successful attempt to prove practically that interesting theory so often discussed in recent bacteriology, that bacilli may be polymorphic; that is, may exist under different forms, having special virulence in each form. It is an important contribution to the question of the possibility of transformation of a non-pathogenic into a pathogenic bacillus.

Dr. Caldas has found that the bacillus coli communis cultivated in the presence of the micrococcus pyogenes aureus and the streptococcus pyogenes or certain forms of molds, especially penicillium and aspergillus, takes on a very marked change of form. It comes to resemble very much the bacillus icteroides described by Sanarelli. When injected into animals it produces the same lesions as those described after the injection of the bacillus icteroides, especially the fatty degeneration of the internal organs. As it is well known that yellow fever is a mixed infection and that pus cocci are always present in lesions of the disease, and as it is conceded that they are of etiologic importance in the production of certain symptoms at least, the possibility of this change of virulence because of the presence of mixed infection cannot be denied.

Dr. Caldas further quotes the articles by Dr. de Lacerda (which we have abstracted for our readers at various times), who found that the bacillus icteroides grew with special virulence and special luxuriance where molds were present.

Dr. Caldas succeeded, by injections of cultures, of the micro-organism isolated by him, into horses, in producing a serum which was effective for the cure of yellow fever. Of eleven cases of yellow fever treated with this serum eight were in the second stage and were considered very seriously ill. Only two died, a less mortality than attends any other method of treatment. It is true the author adds that two others were actually injected, but as they were moribund at the time they are not allowed to enter into the statistics.

According to Dr. Caldas, then, yellow fever is an infectious disease of gastro-intestinal origin. It is a mixed infection produced by the colon bacillus, a normal saprophyte of the intestinal canal, which, when allowed to grow in the presence of the stapylococcus pyogenes aureus, or of the streptococcus pyogenes, or both these micro-organisms, in a culture-medium containing molds, changes its morphologic properties and becomes a terrible pathogenic agent, the microbic cause of yellow fever.—EDITOR.]

THE YELLOW-FEVER QUARANTINE IN VIRGINIA.

LETTER FROM NEWPORT NEWS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—A telegram from Surgeon-General Wyman on Monday asking me to take a hand in the yellow-fever crisis here found me shortly afterward making a house-to-house inspection of the towns along the Chesapeake and Ohio Railroad, between Williamsburg and this place. The object of this house-to-house inspection was to locate any suspicious cases of sickness in the little villages and the country adjacent. These towns are so

situated that they offer a natural outlet for refugees from Hampton and Phœbus. Persons desiring to get out of the infected regions, having gotten through the lines, would drive to one of the stations along the line and get their tickets to some place further north, and many hundreds did so in the few hours which intervened before the establishment of a complete condon around Phœbus and the Soldiers' Home.

It is a well-known rule in a district threatened by yellow fever that the limits of clean territory and the district between this and the territory adjudged infected (the so-called Neutral Zone) should be immediately determined. This Neutral Zone (which, in the present instance is that between Newport News and Williamsburg) is to be held as infected, so far as communication with clean places is concerned, and as clean with regard to the infected district.

A thorough inspection of this district in the last few days has failed, I am happy to say, to show a single case of sickness of any kind, and as five days have elapsed since it was possible for anybody to have gotten out of Phœbus and pass through the district, I think we are safe in saying that this Neutral Zone is clean.

There was a good deal of anxiety in Newport News because it was known that people were leaving Hampton in large numbers, and taking the railroad at points along the line; to prevent this, the State Board of Health ordered that no trains be stopped between Newport News and Williamsburg. While this, unquestionably, was necessary during the first three days of the scare, it has not been so since Dr. White declared that this town *was not infected.* The Health Board of Newport News, however, insist upon holding Hampton as infected; and, although the State Health Board sent an inspector who was to require certificates from persons wishing to board the trains, either from the North or South, the Newport News Board of Health has refused under any conditions to allow passengers to be taken on at any point in the Neutral Zone.

Not only passenger, but freight, trains have been forbidden to stop at points in the Neutral Zone, so that provisions have become nearly exhausted in the district, and farmers are complaining bitterly of the loss of their crops, being, of course, unable to ship them north or south.

I think that we have finally convinced the powers that be that there can be no possible danger in putting off freight in the Neutral Zone and taking on the farm products for shipment to Richmond in the one direction or Newport News in the other.

Surgeon Glennan, in his article, entitled "Measures to Be Taken in an Infected and Non-infected Town," in treating of the precautions which should be taken at uninfected places having communication with places which are infected, and with places in the Neutral Zone, says that it is a complex and difficult proposition, and that this is due to the fact that in the several States (Florida excepted), individual counties, villages, and settlements are a law to themselves as regards sanitary matters. Probate judges, mayors, and self-constituted village authorities proclaim a quarantine against the world, and over all this situation State Boards of Health have only advisory powers, and their advice is often received with derision. This is emphasized by the position of the local Board of Health here, with reference to Hampton and the Neutral Zone.

My experience here and last summer at Port Tampa only goes to further convince me that the quarantine organization should be in the hands of the National Marine Hospital Service.

A year ago, for instance, the transport "Santiago," with twenty-odd officers and over a hundred men, all of whom had been desperately ill with either yellow fever, dysentery, calentura, or other of the innumerable diseases which Siboney supplied, was sent from that port to Port Tampa. Although at the time of our arrival at the latter place we had been five days out of the infected district, the State Board refused to allow the officers and men to be taken through the State in a closed train, thereby forcing us to remain ten full days in quarantine at Egmont Key.

Dr. Geddings, who had charge at the Egmont Quarantine Station, speaks in his report of "the pitiable condition" of the officers and men; and I remember only too well the terribly depressing effect which this ten days had upon one and all of us. We should have been sent, without delay, to points in the North. A number of the officers grew steadily worse while we were there, notwithstanding the fact that we had the most devoted attention from Dr. Geddings and every comfort that money could buy, and I know of one brave officer whose death may be directly attributed to the sojourn at Egmont Key, and of a much-delayed recovery in a number of others. It is perfectly evident that the National Government should have had the power to take these men directly North.

The need of a National control again is emphasized by the action of the Norfolk authorities in quarantining against a perfectly clean place like Newport News, against which Newport News naturally retaliated.

Finally, while we are not yet out of the woods, it may safely be stated that the outlook is most favorable.

I would like to say just here that the handling of this whole situation by Surgeon-General Wyman has been absolutely efficient and thorough, and the people owe him a debt of gratitude which I am sure they will only be too glad to acknowledge.

Frank Donaldson, M D.,
Acting Assistant-Surgeon Marine Hospital Service.

Newport News, August 6, 1899.

[This letter was delayed in transmission, but the situation therein described is so typical of what may under existing laws occur at any time in any section of our country that it is interesting and instructive.—Ed.]

For Rhagades.—

℞ Ac. tannici . . . . . gr. xlviii
Glycerini . . . . . ℥ v
Aq. rosæ . . . . . ℥ iii.

M. Sig. Apply a few drops to affected areas.—*Vigier.*

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE PORTSMOUTH MEETING OF THE BRITISH MEDICAL ASSOCIATION—SCANTY ATTENDANCE—DISCUSSION OF THE PREVENTION OF TUBERCULOSIS BY CLIFFORD ALLBUTT, SIR WILLIAM BROADBENT, OSLER AND TYSON—REVISION OF PHYSICAL STANDARDS FOR PUBLIC SERVICES—THE DESTRUCTION OF MOSQUITOES—RESULTS OF ANTISTREPTOCOCCIC SERUM—REACTIONARY "ANTI"—ADDRESS OF PRESIDENT OF SECTION ON STATE MEDICINE.

THE attendance at the Portsmouth meeting was pretty much as predicted in our letter written at the close of the first day. Instead of 1800 members, as had been anticipated, the register hardly showed 800 and of these not more than two-thirds were ever present at any one time. The attendance at the general meetings fell rapidly from 250 on Wednesday, to scarcely 100 on Thursday, and a mere corporal's guard on Friday.

And small blame to them; for the weather got hotter and hotter, the rooms were stiflingly close and these sessions have nothing before them except the solemn Addresses in Medicine and Surgery, etc., and such odds and ends of business as the General Medical Council—the Dowager Empress of our medical Flowery Kingdom—allows the Association to have to play with.

Even that redoubtable warrior Mr. Victor Horsley found this year that he could not get any question before the General Session which had not passed safely through the sifting-committee of the Council and been endorsed as proper to be considered by the Session. The attendance at the various Sections, however, though small was of good quality and the papers and discussions interesting and well sustained.

The chief interest of any unusual order seemed to center in two sections, one large and imposing, the Section on Medicine, and the other small and unique, the Section on Tropical Diseases. Two main discussions were taken up in the former, the "Standards of Requirement in Examinations for the Public Services" and "The Preventive and Remedial Treatment of Tuberculosis." The first discussion was opened by the reading of the paper of Sir Dyce Duckworth, followed by Professor Osler and Dr. Wallace. The judgment of all who participated tended strongly toward a rationalization of the present standards, and the relaxation of red-tape and mechanical methods so as to leave more discretion to medical examiners. All agreed that many most valuable candidates and recruits were rejected, merely on account of some slight temporary heart-murmur and albuminuria of adolescence or from failing to reach the milliners measurement of the present standards in some trifling particular.

Dr. Savill in particular criticized the folly of rejecting men on account of the deficiency of a fraction of an inch in height and presented a careful analysis of a number of cases rejected on this ground showing them in chest-measurements and general vigor to be distinctly above the average. The rigid standard of a precise minimum is simply the revival of the ignorant drill-sergeants' preference for "tall fellows" and "even-topped" ranks, for as all anthropologists now know, small men have bigger chests, better muscle and will do more work, on less food in proportion to their size than tall ones. And as mere weight and length of sword-reach have nothing whatever to do now days with winning battles, while toughness, endurance, and resistance to disease and hardship have everything, it is high time this absurd relic of barbarism was modified if not abolished. If a short man has a good chest, legs and *stomach*, and strength enough to march under a rifle, he is just as good a modern soldier as any six-footer can possibly be and will stand thirty per cent. more bucketing about on thirty per cent. less food.

Nearly all the experts who took part, including Surgeon-Generals Moore and Cuffe, insisted strongly upon the folly of sending recruits under twenty-two to twenty-five years to serve in the tropics, and at the close of the discussion a resolution to this effect and in favor of rationalizing the present physical standards was passed, to be forwarded to the War Office.

The discussion upon the "Prevention of Tuberculosis" lasted two days, and was opened by Professor Clifford Allbutt, followed by Sir William Broadbent, Professor Osler, Sir Douglas Powell, Professor James Tyson of Philadelphia, Sir Hugh Beevor, and others. The tone of the discussion was most hopeful, the open-air sanatoria with the encouraging records were well represented and many of the speakers, including Clifford Allbutt himself, ventured to express the hope that even within our own life-times we should see tuberculosis, if not exterminated, at least put in a fair way toward it. Stress was laid upon the increasing cleanliness of modern life as illustrated in the disappearance of domestic parasitic insects, always a dangerous source of infection, and the belief expressed that 'household asepsis" would prove ultimately an even greater benefit than the surgical variety.

Well-deserved importance was attached to the splendid work of Birch-Hirschfeld upon the starting-point of pulmonary tuberculosis, which he found in a large percentage of thirty incipient cases, dead of other causes (out of a series of 4,000 consecutive autopsies at Leipzig), to be one of the bifurcations of a particular bronchus supplying the posterior part of the apical lobe. As the bacilli in these earliest-stage cases are not in the alveoli or the lymph-nodes but just under the bronchial mucous membrane, he believes it to be an aerial stagnation-infection and the apex a point of least resistance in the lung.

Sir Hugh Beevor presented a series of curves and maps showing the death-rate from tubercle under various conditions, all of which clearly pointed to the close connection between tubercle and over-crowding and deficient ventilation. The death-rate rises steadily with the number of inhabitants per room and house. Special stress was also laid by several speakers upon the fact that plenty of fresh air and life in the open was the chief requisite in cure, climate, temperature, moisture, and elevation being minor considerations. As Dr. Hillier expressed it, "climates differ in desirability, simply in so far as they tempt the patient to live in the open air." Provide plenty of home

sanatoria, especially for the poorer classes, and cure patients in the climate in which they have to live and work. Dr. Woods Hutchinson presented tables of measurements of 82 tubercular chests, showing that they have a most uniformly, typical shape, *round*, narrow, and long, instead of *flat*, as usually described. This shape of chest is simply the arrested chest of early adolescence, the thorax failing to complete its development from the almost dog shaped chest of the embryo to the flattened adult human type. Hence any chest failing to develop properly in breadth after fifteen or sixteen years, should be regarded with suspicion and diameter measurements be a valuable guide to the pretubercular state.

As a rule our English brethren seemed to think little of either sputum examinations, which they regard as too uncertain and a great deal of trouble for little benefit, or the diagnostic use of tuberculin. In some of the largest hospitals in London bacteriological examinations of the sputum are made but in a small proportion of cases.

The tone of the discussion upon malaria and its prevention in the Tropical Diseases Section was almost equally hopeful. Specimens of the guilty mosquito (*Anopheles* claviger, and *A. pictus*) and of the various stages of the development of the malarial parasite in their interior were sent over by Bignami and Grassi and made a fascinating display.

High anticipations were expressed of the results of the Liverpool School's expedition to West Africa, headed by Major Donald Ross, which was even then rocking upon the Bay of Biscay en route for Sierra Leone. If as stated by entomologists, the breeding-grounds of *Anopheles* are decidedly limited then some means of eliminating the disease by checking the breeding of its carrier ought certainly to be hit upon by the expedition.

A valuable paper was read by Dr. George H. Nuttall of Cambridge upon the activity of insects as carriers of disease, in which he regards the common fly as one of the greatest offenders in this respect. Experiments by himself upon the transference of various diseases by the bites of pediculi, fleas and bugs had, however, yielded almost entirely negative results in some 250 instances.

Sir Patrick Manson reported an autopsy upon a patient suffering from *filaria nocturna* who had committed suicide during the day-time, and the heart, pulmonary arteries, great vessels and lungs were found simply crowded with embryos while seventeen adult worms were found in a lymph-varix in the pelvis.

In the Section of Obstetrics and Gynecology much interest was elicited by the discussion of Dr. Herbert Spencer's paper on the "Serum Treatment of Puerperal Septicemia." His conclusions were decidedly unfavorable to the treatment which he thought had not lowered the mortality and was sometimes attended with danger. Although he admitted that its use usually lowered the temperature and made the patient feel more comfortable. Drs. Arnold Lea and Whitelocke reported cases in which they had found it of decided benefit, but Professor Murdock Cameron, Dr. More Madden, and Professor Byers tended to agree with the original paper. The latter declared that in spite of asepsis, puerperal fever was in no way diminishing, which if true is a professional scandal and ought to have a Collective Investigation Committee or a Royal Commission turned loose on it at once.

The attitude of the daily press toward the meeting was distinctly different from that of our own in two respects, it was less keen but more respectful. Whether the advantage of the latter balanced the disadvantage of the former is a question. The gist of the General Sessions and the substance of the Address were briefly but well reported, but the work of the sessions was for the most part regarded as "confidential," in other words, too technical.

The only exception was the Section on State Medicine, which was quite fully reported, though this was a pity in one respect, for the President made a most unfortunate and reactionary address, which was thus widely trumpeted abroad. He chose to fall foul of the entire principle of serum-therapy, *because* it was not identical with that of vaccination. Declared its boasted successes were failures, especially in diphtheria, and denounced the reckless slaughter of animals, which so far had "never saved a human life or lightened appreciably the load of human suffering," quite *à la* Lawson Tait, whose spirit must have entered into him. Needless to say it has been welcomed with howls of delight by "antis" of all sorts.

SOCIETY PROCEEDINGS.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-seventh Annual Meeting, Held at Portsmouth, England, August 1, 2, 3, and 4, 1899.

[Continued.]

THIRD DAY—AUGUST 3D.

SECTION ON MEDICINE.

THE second day of the meeting of the Section on Medicine was principally devoted to a discussion of the

PREVENTATIVE AND REMEDIAL TREATMENT OF TUBERCULOSIS.

The large hall in which the meeting was held, was almost inconveniently crowded, and great interest was manifested in the subject.

PROFESSOR CLIFFORD ALLBUTT'S contribution dealt with the modes of infection of the disease, the morbid anatomy of its first stage, diagnosis, prevention, and cure. He made special reference to the treatment of consumptives in sanatoria. SIR R. DOUGLAS POWELL alluded to the advantages of sanatoria in educating the practitioner in the treatment of patients at home, in providing for homeless persons afflicted with the disease, instructing the patient in the discipline of illness. He also referred to some of their drawbacks. PROFESSOR OSLER laid great stress on the repeated examination of the sputum for tubercle bacilli, and said that in his experience—not a small one—the tuberculin test for the diagnosis of early phthisis had been invariably successful. In his opinion the personality of the physician in charge of the sanatorium was the most important factor of the treatment. DR. TYSON referred to the marked decrease in

the mortality from phthisis in Philadelphia during the last twenty years, eight per cent. He thought that the treatment by drugs should not be entirely ignored, and quoted favorable results from the use of creosote. DR. SHINGLETON SMITH rather deprecated the notification of phthisis, hoping that anything of the nature of quarantine of consumptives would be avoided. SIR HUGH BEEVOR concentrated his observations on overcrowding as a cause of tuberculosis, and referred to tables showing the relation of phthisis mortality to density of population. The President, DR. BRUCE, called attention to the prevalence of tuberculosis in the training-ships for boys in the Royal Navy, its probable cause being the retention of the old fashioned insanitary wooden ships, particularly objectionable when used for sleeping quarters. DR. PARSONS considered that in view of the great difficulty in diagnosis of early tuberculosis every apparent cure of a case, prior to the appearance of tubercle bacilli in the sputum, should not be included in statistics. MR. LARDNER GREEN described the use of a spray of dilute formalin as an adjunct to the sanatorial treatment of phthisis patients. DR. DENTON JOHNS distinguished between sanatorial and climatic open air treatment, and discounted the latter in the absence of the former. He showed a patient that had been cured under sanatorial treatment. DR. CALWELL brought forward details of cases that had done well under hygienic treatment independently of sanatoria. DR. BURTON-FANNING stated that the National Association for the Prevention of Consumption and Other Forms of Tuberculosis was just about to begin the building of sanatoria for the London poor.

SECTION ON SURGERY.

The discussion of

THE PREVENTION AND TREATMENT OF SYPHILIS IN THE NAVY AND ARMY

was opened by Deputy Inspector-General E. E. MAHON, R.N., and MAJOR W. DICK, M.B. The former called attention to the following statistics: In 1880, the average strength of officers and men on the home station was 22,370; in 1897 it was 43,900, or nearly double. In 1880 the loss to the service in number of days' sickness from syphilis, primary and secondary, and gonorrhea was as follows:

Syphilis, primary	32,223
" secondary	12,859
Gonorrhea	40,392

In 1897 the loss to the service in number of days' sickness was:

Syphilis, primary	76,335
" secondary	49,764
Gonorrhea	77,034

The figures show what an enormous loss there is to the country through the prevalence of these diseases. He considered that it was impossible to hope that the Contagious Diseases Acts would ever be enforced again. That, however, would be the most effective way of dealing with the question. Failing this the moral elevation of the men themselves must be attempted, and especially the encouragement of sobriety. He emphatically asserted that intemperance was very largely responsible for the number of cases of venereal disease. The following suggestions were made: (1) Good naval barracks to be substituted for depôt ships in all the principal ports. (2) Advice to be given to young soldiers in regard to personal cleanliness. (3) Early marriages to be encouraged, which might be done by offering pensions to the widows of seamen. (4) Pensioners in good health, and not suffering from the sequelæ of venereal disease, to be given preference for civil employment by the Admiralty. Major Dick called attention to statistics, collected at five-years' intervals, showing the increasing number of cases of venereal disease compared with all cases of illness in the army. The percentages for the years 1882, 1887, 1892, and 1897 were respectively 23.66, 26.65, 30.94, and 38 71. It will thus be seen that there was in fifteen years an increase of 15 per cent. of cases of venereal disease. In 1897 the number of cases of venereal disease treated at Netley was nearly one-third of the total number of cases of sickness. The following suggestions were made as to the prevention of syphilis in the army: (1) The inculcation of moral principles in the young soldier. This, though admirable, is theoretical rather than practical. (2) Hygiene of the individual. (3) The rendering of a soldier's life as pleasant as possible in barracks, to prevent his seeking his pleasures abroad in the evenings. Men should be encouraged to come to hospital the moment they themselves detect anything suspicious.

MAJOR LAMBKIN, R.A.M.C., dealt in detail with the intramuscular method of injection. By this method the treatment of syphilis can be continued for as long a period as is thought necessary with little or no trouble to the patient. The following prescription has been employed: Hydrarg., ʒj; lanolin pur., ʒij; ol. carbol. (1 in 20), ʒiv Ten minims are injected in the buttock once a week, and the whole course of treatment lasts about eight to twelve months. In 20,000 injections he had only once seen any bad result—a localized abscess at the point of injection. DR. SHAW MACKENZIE thought that the improvement during the Contagious Diseases Acts was due to the hospital treatment rather than to the machinery of the Acts, and that provision for such hospital treatment of both sexes, voluntary as opposed to compulsory, seems necessary at the present time. COLONEL F. H. WELCH, R.A.M.C., believed that the present state, especially abroad, of the army in its relation to venereal disease, is such as to require measures of prevention. All public measures of prevention must lie in the control of prostitution, and authorities abroad should be allowed a free hand in meeting the local conditions.

MR. A. H. WARD read a paper on

THE RATIONAL TREATMENT OF SYPHILIS.

The following points were considered essential: (1) To push mercury to the toleration point and keep it there; (2) to commence treatment at the earliest possible moment; (3) to continue it throughout the normal period of the evolution of the disease; (4) to make treatment easy and not be irritating; (5) to take special care of the general health; (6) to recognize the value of water as an adjuvant to treatment.

COLONEL FRANCIS H. WELSH read a paper on the

PREVENTION OF SYPHILIS,

which he said can be brought about in two ways—hygienically through curtailing the lineal descent of the virus, sociomorally through curtailing prostitution. The evidence accruing during the last thirty-five years points to the conclusion that through surveillance of prostitution and segregation of the affected it is possible both to reduce the prevalence of the disease and to diminish its virulence. The disease must be attacked from all sides —morally, socially, and hygienically.

PROFESSOR E. LAPLACE of Philadelphia demonstrated a new forceps for intestinal anastomosis. The advantages claimed for this instrument are rapidity of operation, complete and water-tight union of opposed surfaces, and extreme simplicity.

MR. H. RUNDLE read a paper, entitled

NOTES ON 375 CASES OF VARICOCELE TREATED BY OPERATION.

The following inferences were drawn: First, that varicocele exists in a large number of young men, probably 18 to 20 per cent., and does not produce any physical discomfort; that it ought not to be considered a cause for disqualifying them, except in rare and pronounced cases, from entering the service; and, that such ordinary cases do not demand operative interference. Secondly, in cases in which an operation is required, ligature and excision of veins by an open incision is the best. It is a simple undertaking, free from danger and the result is excellent.

MR. JONATHAN HUTCHINSON, JR., whilst fully agreeing that the great majority of subjects operated on for varicocele possess no true pathological defect and suffer no real inconvenience, submitted that in a certain number the persistent aching and the risk of atrophy or softening of the testicle fully justifies the open operation apart from service consideration. He had seen a few cases in which atrophy of the gland followed severe varicocele. He thought some cases, in which the scrotum and cremaster are extremely lax, are only to be dealt with by free excision of the lower part of the scrotum and high ligature of the anterior bundle of veins. MR. J. A. BUCK mentioned a case in which atrophy of the testicle to the point of almost complete disappearance had followed the operation. He advised that only a portion of the veins be excised. COLONEL STEVENSON (Netley) believed that the cases operated on in the services, or the cases of candidates for the services are nearly always less marked than those in civil practice. The testicle is seldom atrophied. It is necessary to operate even on very slight cases in the army because a soldier with any physical disability, even a slight one, is practically useless for duties which he dislikes.

MR. L. A. BIDWELL read a paper on a

METHOD OF ATTACHING THE SKIN TO THE MUCOUS MEMBRANE OF THE RECTUM AFTER PERINEAL EXCISION.

After excising the rectum by the usual perineal racket-shaped incision extending to the tip of the coccyx, two transverse incisions are made on each side of the anus, and the skin flaps are dissected up and attached to the mucous membrane of the rectum. In this way tension is diminished, and it is possible to unite the mucous membrane to the skin even after removal of several inches of the rectum. The duration of convalescence is shortened, the comfort of the patient is greater during dressings, etc., and the chance of cicatrical contraction is lessened.

MR. CARWARDINE (Bristol) described a

METHOD OF EXCISION OF THE RECTUM FOR CANCER,

the aim of which is the safe and complete excision of the rectum, and the contiguous lymphatic area and the functional restoration of the parts. He showed photographs of the various steps of the operation, and a patient upon whom he operated about a year ago. He extirpated the affected gut with the presacral glands and tissue in continuity. A new and bifid coccyx reformed from the periosteum. The operation was carried out as follows: The patient was placed prone, and the coccyx and second and third pieces of the sacrum were excised subperiosteally. Then a long knife was passed through the anus and out in the middle of the periosteum, and all the retrorectal tissues rapidly cut though. The rectum was completely isolated on all sides, avoiding the sphincter. The periosteum was deflected as far as required. Only the mucous membrane was divided above, and the whole presacral tissue and glands drawn down and cut across high up in the hollow of the sacrum. The upper bowel was united to the anus, and with but little drainage the periosteum and soft parts united by first intention. MR. C. RYALL read notes of a case of extensive transacral excision of the rectum, followed by perfect sphincteric control; 12 inches of the upper rectum and lower sigmoid were removed. After two subsequent operations the upper bowel was anastomized to the lower rectum.

MR. JAMES BERRY read a paper on

SEVENTY-TWO CONSECUTIVE CASES OF REMOVAL OF GOITER BY OPERATION (EXTIRPATION OR ENUCLEATION).

In nearly all the cases the operation was performed on account of dyspnea. He drew attention to the serious nature of the goiter in which a prolongation extends down behind the sternum. Many of his cases were of this variety. In ten cases the operation was performed through a transverse skin incision. The results as regards appearance were excellent. Of late he has been in the habit of operating with local anesthesia in all cases in which there is much tracheal obstruction. He reported 3 deaths in 72 cases, one from chloroform, and 2 from severe recurrent hemorrhage. In the remaining 69 cases the immediate and remote results were excellent.

G. E. ARMSTRONG of Montreal, read a communication on the

SURGICAL TREATMENT OF HEMORRHAGE FROM GASTRIC ULCER.

He recorded the results of the post-mortem examinations

at the Montreal General Hospital. In all cases of fatal gastric bleeding the hemorrhage was arterial, and was readily accessible to surgical treatment.

Section on Obstetrics and Gynecology.

In introducing a discussion upon the natural menopause compared with the menopause produced by removal of the uterine appendages, and the menopause produced by removal of the uterus without removal of the appendages, Mr. Bland Sutton remarked that the functions of the ovary are not merely ovigerous; Graaffian follicles are to be regarded as mucous crypts, and the ovary as a ductless gland of the same type as the thyroid. The period of ovarian activity coterminous with that of the menstrual life, and the removal of the ovaries causes not only amenorrhea, but also a series of symptoms characteristic of the menopause. The uterus is structurally a hollow muscle forming an incubation-chamber for the reception and development of oosperms. The endometrium, from fundus to internal os, is the organ of menstruation, and the source of menstrual hemorrhage; but besides hemorrhage there are important vasomotor phenomena in menstruation. The normal menopause is the result of atrophy of the secreting elements of the ovary. In addition to cessation of menstruation, other disturbances are generally met with at this epoch, such as the phenomenon known as "flushing," mental irritability, and sometimes erotomania. The artificial menopause, likewise, is something more than arrest of the usual monthly hemorrhage. Removal of the uterus, although it produces amenorrhea and sterility, does not induce a complete menopause. Removal of the ovaries, on the other hand, is followed in a small proportion of cases by flushings, which he has known to occur as frequently as fifteen times in an hour. These signs do not supervene after removal of the uterus alone. Usually the patient passes through a quiet menopause without disturbances. No information was forthcoming as to the changes which occur in the ovaries left behind after removal of the uterus. Mr. Sutton urged that in peforming hysterectomy one ovary at least should be spared if possible, so as to avoid the production of a complete artificial menopause.

Dr. Reed of Cincinnati said that he agreed with the view that it is an advantage to leave a portion of the ovary if possible, but he sometimes found a second operation necessitated by disease of the retained portion. He drew attention to the importance of further study of the changes in the hematogenic functions at the menopause.

Dr. Stuart Nairne of Glasgow followed with a paper describing a

new and more perfect method of colporrhaphy.

This method consists in uniting the lateral vaginal walls from the cervix to the vulva, so as to divide the vagina into two canals of more or less equal capacity.

Dr. Macpherson Lawrie read a paper on

fifty consecutive cases of celiotomy for diseases of the uterus and appendages, with forty-eight recoveries.

He affirmed that the principal factors on which good results in abdominal surgery depend are: firstly, asepsis, and secondly, careful hemostasis. As secondary points of less importance, he mentioned reasonable speed in operating, avoidance of unnecessary intraperitoneal manifestations, and careful after-treatment.

Dr. Archdall Reid followed with a paper upon the

causes which render difficult the labors of civilized women.

He stated his own view to be that the frequent use of forceps at the present time is rendered necessary by the steadily increasing difficulties attending labor in civilized countries. These increasing difficulties he attributed to the want of correspondence between the size of the pelvis and that of the fetal head, and in minor cases to rigidity of the soft parts. Dr. Shaw-Mackenzie next read a paper, entitled

the syphilitic factor in the diseases of women.

He pointed out the frequency with which pelvic inflammatory disease in parous women is associated with minor syphilitic sequelæ, and for the most part with previous abortion. Syphilis is often modified in women, the primary lesion being of a suppurative character, and the secondary phenomena being limited to erosions of the genital tract with purulent discharge. He advocated the treatment of pelvic inflammation by mercury and iodids. In subinvolution of the uterus that treatment is especially useful as opposed to the curette. In advanced inflammatory or suppurative lesions, however, it is not satisfactory, but in menorrhagia and metrorrhagia it is very useful.

Dr. Warden of Paris followed with a short paper on the

treatment of puerperal infection in the maternity hospitals of paris.

He referred to the importance of the early recognition of the infected state, as indicated by the pulse and temperature, and the importance of immediate local treatment by intra uterine irrigation and careful curetting. The curette should never be used before the third day. Professor Pinard performs the operation without the use of anesthetics. After curettage the uterine cavity is swabbed out with a strong antiseptic, and packed with salol gauze.

Third General Session.

At the General Session on Thursday, August 3d, Dr. Alexander Ogston delivered the Address in Surgery. Departing from the custom of the Association somewhat, instead of reviewing the progress made along surgical lines, he asked whether the advances made since Lister's discoveries have been placed within the reach of the naval and military medical services. There could be only a negative answer to this query, and in the latter portion of his address he outlined some plans to bring about a better state of affairs. He spoke, in part, as follows:

In all the busy centers of the earth is springing up a new race of surgeons, who effect as part of their everyday work marvels of cure that even thirty years ago, had

any one ventured to forecast them, would have been looked upon as the dreams of a visionary. And it is not merely surgery that has undergone a revolution. The discoveries of Lister are changing the aspects of medicine, midwifery, pathology, and many other provinces of medical science. It is, moreover, impossible to avoid the conviction that the open handed beneficence we now witness in the increased interest and support extended to public charities in all their forms has been in no small degree evoked by the great work he has enabled the surgical and nursing profession to carry out.

While, in many respects, we have good reason to praise the age we live in, no one fully acquainted with the state of surgery in our land can fail to be impressed by the fact that some of our medical and surgical brethren are still hampered by systems and restrictions which must be swept away. I venture to believe that in the City of Portsmouth it will not be out of place to advert to the condition of our Army and Navy Medical Services. These, since the surgical world was stirred to its depths thirty years ago by the doctrines of Lister, have been, I fear, gradually falling into a condition that cannot fail to evoke much anxiety regarding their present and future; and it appears to me that the present time is suitable for drawing attention to the reforms that may be necessary to ensure that, when the supreme moment arrives, the medical departments of these services will be found adequately prepared to undertake the duties they will be called upon to discharge. Recent events have demonstrated that we may be unexpectedly called upon to engage with both army and navy in European or even world-wide wars, such as would put their efficiency to the severest possible test.

It is moderate and reasonable to expect that the medical officers of the army and navy shall be able efficiently to perform their functions in time of peace, and fully be prepared for the eventualities of war. Yet no observant member of the profession can have failed to observe that the most talented graduates have ceased to aspire to enter the services; while those medical officers who possess a few-years' experience of the services admit they have made a mistake in entering them, and would gladly, were it possible, sacrifice the years they have spent in them and quit them entirely, even for some comparatively unpromising post in civil life. Consequently, year by year the medical services, especially that of the Queen's Army, have become more attenuated and undermanned. Oft-repeated experience, over the very same ground, has indeed taught us to conduct, in some respects, the medical part of expeditions in the jungles and swamps of West Africa, the deserts of the Nile, or the ravines of the Himalayas in a way that probably no other Power could excel or even equal. Our enemies there are poorly armed and our casualties few. But it dare not be inferred from this that we are in a condition to deal with a war against a Great Power, with arms and organizations at least equal to our own, in which large numbers of wounded—thousands instead of tens—must be treated.

Their duty in time of peace afforded the army and navy surgeon, it is no exaggeration to say, scarcely any chance of acquiring the knowledge and skill that would be demanded of him in war. No surgeon can now, as in former days, rise suddenly out of the ranks of those destitute of special training, however eminent his natural abilities may be. He who is skilled in exercising his profession becomes so by many years of special training. No man who is but theoretically acquainted—be it in ever so perfect a fashion—with the mere doctrines of antiseptic surgery is able to step at once into the arena as a practical surgeon.

A standard of work at least equal in excellence to that of the civil surgeon ought to be expected of army and navy medical officers. Senn of Chicago, Chief Operating Surgeon with the United States Army recently in the field, and one who has done much for surgery, points this out in the following axioms:

1. That in theory and practice military surgery is equivalent in every respect to emergency practice in civil life.

2. That the wounded soldier is entitled to the same degree of immunity against infection as persons in civil life suffering from similar injuries.

3 That all formal operations in war must be performed where the wounded can receive the full benefit of aseptic and antiseptic precautions.

4. That operative interference is indicated in all penetrating wounds of the skull.

5. That gunshot wounds of the chest should be treated under the strictest antiseptic precautions.

6. That laparotomy in penetrating gunshot wounds of the abdomen is indicated in all cases where life is threatened by hemorrhage of visceral wounds, and the general condition of the patient is such as to sustain the expectation that he will survive the immediate effects of the operation.

Statistics show that wounds of the brain, chest, and abdomen form about twenty per cent. of all the wounds received in battle. There must, therefore, in the next great campaign, be an enormous field of usefulness for properly trained antiseptic surgeons, and a fearful waste of life if they be not there to occupy it. Yet who that compares the conditions under which the civil surgeon is formed with those existing in the Royal Army Medical Corps or the Navy will be so bold as to say that the latter furnish any adequate means of familiarizing their surgeons with the highly complicated and difficult procedures which they ought to be able to carry out with dexterity and success? Save a few connected with Netley—and perhaps Haslar—Hospitals, most officers have hardly once in their lives an opportunity of carrying out any important operation on the brain, thorax, or abdomen. How, then, can they undertake, with any prospect of a happy issue, the intricate steps of, say, a laparotomy in a gunshot wound of the abdominal contents, with all its complicated problems and perils? It can hardly be wondered at that a service entailing on those who enter it what is, from a professional point of view, almost an intellectual sterility, should be a mode of life out best graduates recoil from, and which few of them can be persuaded to adopt. Such scientific corps as, for instance,

artillery, engineering, and telegraphy have undergone extensive improvements and reforms in the last few decades. No means of enhancing their efficiency are neglected. For them all the inventions of modern science are studied, adopted, and improved. Tactics are studied, maneuvers held, officers and men practised and drilled, fleets and bodies of men are put in motion, and any unreadiness is observed and remedied. Yet the Royal Army Medical Corps and the Naval Medical Service, which demand a greater degree of practice and experience than either artillery or engineering, ere their delicate machinery can be brought into salutary use, are left in a condition which may have answered well enough fifty years ago, when rough-and-ready surgeons could do the rough-and-ready work then required, but which is out of harmony with the revolutionized conditions of modern surgery and the state of the medical service of the armies and navies of rival military powers. They would seem to be considered as less deserving of development than even such departments as the commissariat and transport —the contemptuous belief being apparently held that trained surgeons to attend the wounded in war can be summoned into the field at a moment's notice by the expenditure of so much money, like the horses, mules, and camels that an army requires.

To manage in this fashion is simply to ensure, when a critical time occurs, a repetition of the scenes of the Crimea, where admirable medical officers were made a sacrifice by the war authorities to appease the public indignation excited.

So complex an organization as the Royal Army Medical Corps ought to be kept in a high state of efficiency, and be vitalized by continual practice. Whether stationed at home or abroad, the officers should be provided with all the proper means of keeping themselves informed regarding the advances that are forever being introduced into their science. Were the reforms that naturally suggest themselves carried out, who can hesitate to believe that the best graduates would once more flock to and remain in them; and the country would not be placed in the dreadful position of having to pay, with the lives of its bravest and best, for the state into which its medical services have been allowed to drift.

More than the army the navy requires the touch of a reformer's hand. In the event of a naval engagement of any magnitude the wounded on board our ships of war would have to be attended to in a small dark room, unprovided with any save the rudest appliances and a few cots, where at most half a dozen men could be handled, and which is, moreover, in many vessels, as much exposed as any other part of the ship to the fire of the enemy. Were such a fighting bay rendered untenable the wounded, however great their need, could be attended to only by being lowered, slung in a vertical posture, down the narrow hatchways, where the shot is brought up from the magazines to the guns, and even these would not be available during the heat of an action. Everything on board ship that can destroy life is in the highest perfection, everything that can save it is of the rudest description and behind the age. We must lead rather than follow in naval matters, as foreign ships of war are constructed according to the example England sets. And our navy, being the most perfect and greatest destroying force of all the war fleets of the world we should be the foremost in introducing into it the best-planned methods of relieving suffering and saving life that can be devised.

Criticisms without suggestions are usually better unmade; and to call attention to defects in the services, without indicating the lines of remedy, would be almost unpatriotic. In countries where universal military service obtains the most eminent civil surgeons are at the disposal of the authorities in time of war, and in peace hold rank in the army, receiving promotion like those actively serving. They are soldiers in reserve and can be made use of wherever their eminence and special qualifications make them most useful in war. The idea of adopting this system among ourselves, but on voluntary lines, is no new one; although it presents obvious difficulties, they do not seem altogether insuperable, and, at any rate, such a plan is worthy of the attention of the War Office.

Much that is instructive may be learned from the medical services of Germany, where, of course, compulsory service exists. Every medical man who has served in the army at all is maintained for nineteen years under military orders—that is, he possesses a fixed rank, and is allotted, even in time of peace, a known military post which he would occupy if war broke out. Thus the university professors hold high military rank, and are required to give annual courses of instruction to the medical officers serving in the army or navy. Such well-known surgeons as Bergmann, Bruns, Trendelenburg, and Mikulicz have to teach these classes during the Easter holidays, so as not to interfere with the winter and summer sessions of the universities. In time of peace German army surgeons have the development of their professional culture ensured by the following measures: The most promising surgeons and assistant surgeons are sent on duty for a year at a time in the medical, surgical, and gynecological departments of the hospitals connected with the universities and in other large public hospitals not connected with them. The junior and assistant surgeons are also annually sent to attend the special courses of instruction in anatomy, surgery, and operative surgery mentioned above. The senior medical officers, nearly corresponding with our surgeon-majors, at least the most competent and promising of them, have to serve in rotation in the large military hospitals, in which are treated, not merely soldiers, but all kinds of ordinary patients; there they have to act as teachers and attend and take a share of the tutorial work among the pupils in the classes of the various professors; or they may be sent on duty for a year in the general hospitals, not only in the surgical, but also in the medical and gynecological wards. They have also to attend, as they may be ordered, annual courses in bacteriology; or they may be furnished with funds for traveling in other countries and studying their medical and sanitation arrangements.

In the Russian army and navy similar care is taken of

the professional culture of the medical officers. Russia possesses 6 large and 300 small hospitals connected with the army, besides smaller lazarettos; and in some of these the equipment is far in advance of anything the services possess in this country. Thus the military hospital of St. Petersburg treats all medical, surgical, gynecological, ophthalmic, and other diseases, consists of five separate clinics or infirmaries, each of which is complete in itself, and has 850 beds, 120 of which are for women, and 20 for children; and about 45,000 patients are treated per annum. In these clinics the students and assistants have to work in the most thorough manner, and study every kind of case. The hospital possesses a staff of 34 professors, 70 *privatim docentes*, and 47 assistants. Each department is furnished with an ample annual allowance for instruments and apparatus, and has liberal provision of everything calculated to assist the most advanced work and investigation; X-ray rooms, photographic rooms, electrical rooms, immersion lenses, centrifuges, etc., to an extent that excites the marvel and envy of British visitors. Russia has 300 surgeons in her army, and any of these may, if he shows ability and powers of work, apply for and be ordered to return to study in the hospitals for a period of two years. There he has to work as a regular assistant, and on proving his capacity may attain a place among the teachers of the institution; or he may be transferred to the hospital of some provincial city, and there continue to perfect himself in his profession, and further qualify himself for his duties in time of war. The Russian naval hospitals are arranged like their army hospitals; they exist in many parts of the empire, there being five large ones at different ports, besides one or two smaller ones; they admit civil cases of all kinds; and in them the medical officers possess opportunities of training themselves in all manner of high-class professional work.

In the French army post graduate courses, expressly for medical officers, are conducted by professors at the different universities throughout the Republic, and the cost is borne by the Army Medical Department; while a certain number of the medical officers of the active and reserve army are every year ordered to attend them, extra pay being drawn by those who do so.

But enough has been said to show that we have much to learn from foreign countries; that, unless we follow their example, our officers, soldiers, and sailors who may be wounded in war will be attended to in a very imperfect fashion compared with those of other European Powers; and that our services stand in need of great reforms, which must be more or less of the following nature:

It would, first, be a great advantage to the services were a Section created for military and naval surgery at the annual meetings of this Association. Such a Section would furnish instruction as to the actual state of matters and what amendments are required. Reforms so initiated and urged on the authorities by this Association could not fail to be quickly introduced. The most clamant of all reforms is provision for the proper instruction of officers in their war duties. I cannot put too strongly the absolute necessity for at least one out of every five years of service being devoted to this. Officers receiving study leave should be sent to act as assistants, residents, and house-surgeons and physicians to our hospitals and schools of medicine, in the same way as our younger graduates who are in training for the highest places in the civil profession.

It is of the most vital importance that the development of military and naval hospitals should at once receive the attention of the authorities. They should, wherever it can by any possibility be done, be thrown open for the reception of ordinary patients from the civil population, and for the admission of diseases of all kinds. The hospitals are the heart of the services, and it is necessary that the authorities should be brought to recognize that this is so, and follow the wise examples set by foreign nations.

Our country ought to provide every fleet with a certain proportion of fast steamers, without armor or armament, flying the Red Cross flag, fitted up with wards, operation-theaters, and dressing-room, anesthetic, sterilizing, and apparatus-rooms, officered by a staff of surgeons and attendants, and in every way imitating the arrangements of the best civil hospitals. These should form as essential a part of every squadron as do the bearer companies and field hospitals of an army. The cost of such vessels would be small compared with ships of war, and the good they would achieve in great naval engagements, and even in ordinary times, would be unspeakable.

The fatal error of imagining that the Army Medical Corps can be supplemented by civil aid is one that has already done infinite harm; it has been made a constant pretext for hindering the due development of the services and producing the defects of which I have spoken, and is a mischievous delusion that cannot be too strongly combated. Were such a proposal made regarding any other scientific department, such as, say, the Royal Engineers, its absurdity would be at once perceived. At its best it is but a poor palliative, but can never be a cure.

I have been moved by the conviction that the present is a suitable time for one who is in the civil part of the profession to speak boldly what is in the minds of many civil surgeons, and is known to still more who are in the services themselves.

But I hope my motives will not be misjudged, and that what has been said may contribute in some degree to stir the profession generally, and this powerful Association in particular, to increased efforts to open the eyes of the British nation to the real state of matters, regarding which it is at present blind; so that when the Temple of Janus once more opens in our midst, the services may be found in such a state of preparation and efficiency as is demanded by the honor and well-being of our country and the interests of humanity.

[To be concluded.]

For Infantile Colic —

℞ Ext. hyoscyami . . . gr. iii
Pulv. ipecac. . . . . gr. iss
Magnesiæ . . . . gr. xx.

M. Div. in chart No. X. Sig. One powder every three hours.—*Condie.*

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ORIGINAL ARTICLES.

THE RADICAL CURE OF HERNIA.[1]

BY WILLIAM B. COLEY, M.D.,
OF NEW YORK.

IT is impossible to view the present methods and results of the operative treatment of hernia in the true perspective without a brief survey of the past, stopping here and there for a moment to note the more important landmarks. The historical picture presented shows that its evolution has not been a gradual and harmonious development, but rather a series of brilliant conceptions based on more or less sound anatomical principles. At one time these were found commanding the respect and confidence of the leading masters of surgery of the day, and at another relegated to quacks and traveling rupture-curers, who alone kept them from falling into utter oblivion, until, under the new stimulus caused by the great discoveries of anesthesia and antisepsis, they were again revived and elaborated.

While we find occasional references to hernia and its treatment in the writings of the early Greeks, the first recorded description of an attempt to cure the condition by operation was made by Celsus, a Roman, who lived during the first half of the First Century, A.D., and to him must be given the honor of being the founder of the radical cure of non-strangulated hernia. His operation consisted in a free open incision over the hernial tumor, exposure of the sac, and probably the removal of the whole or a part of the sac. If the omentum was present it was pushed back but if irreducible, a needle was passed through the middle and it was then tied off in two portions. The wound was then closed by sutures. The testis was not removed and care was taken not to injure the cord in the dissection of the sac. The operation was confined to children under six years of age.

Heliodorus, who flourished under Trajan at the beginning of the Second Century, has given us a description of a method of operation for hernia which actually surpasses many that are now offered to the profession as new and ideal. He says,[2] "We must cut out the hernial sac with great care for, if you take away less than is protruded, the result will be the production of a new hernia. In order, therefore, that we may not miss excising an amount that is precisely correct it is necessary to draw the sac outward by catching the tip. So soon as the edges of the abdominal wound begin to be everted, enough of the peritoneum has been drawn out and so much is to be excised. When just enough peritoneum has been drawn out the sac is to be twisted. Having been cut off along a straight line the peritoneum becomes folded upon itself, and screwed up and closed so tight that not even the point of a probe can be introduced."

A few centuries later this operation had been abandoned and forgotten.

Paul of Ægina in the Seventh Century, following in many points the method of Celsus, introduced a new and radical step, *viz.*, castration. Without attempting to separate the cord from the sac he transfixed the sac with a "large-sized needle containing a double thread." This thread was then cut and the ends crossed like the great letter X and tied. The portion below the ligature, with the testis and cord, was then cut away. It seems difficult to understand how this method so inferior to the methods of Celsus and Heliodorus should have survived almost to modern times, while the former were so soon forgotten.

During the Middle Ages many new methods were introduced. Castration was still performed though, according to William of Salicetus, only by traveling rupture-curers and foolish physicians. Of the other methods the principal ones were: (1) Exposure of the sac and closure by various forms of ligature. (2) Inclusion of the sac and scrotum either by needles or by sutures. (3) Cauterization applied in various ways. The cure by cautery was known by Paulus and was much employed by the Arabians. It continued in vogue almost to modern times. Full details of the method are found in the writings of Pott.[1] Different writers differed widely as to the extent and depth of the cauterization, but Pott says: "In all of those the exfoliation of the bone is made a necessary part of the process. Eschars and sloughs being separated and the exfoliation cast off the patient is ordered to observe an extremely careful regimen, to lie on his back during the cure and to wear a bandage for some time afterward in order to prevent a new descent of the parts," which notwithstanding all

[1] Address in Surgery delivered before the annual meeting of the Canadian Medical Association, held August 30, 31, and September 1, 1899.

[2] Albert, '*Lehrbuch der Chirurg.*, Bd. iii, and Halsted, *Bulletin Johns Hopkins Hosp.*, No. 29, 1893.

[1] Vol. ii, p. 177.

the pains and all the hazard the patient had undergone he was still liable to.

Cauterization by means of strong acids was also employed. During the Eighteenth Century castration became so common, especially in France, that finally stringent laws were passed condemning it. It is not difficult to understand the dire results that not infrequently followed these methods and which finally led to their abandonment.

Such then was the state of the radical cure of hernia at the beginning of the Nineteenth Century. We find an occasional return to ancient methods in the early part of the present century, notably by the Prussian surgeon, Schumaker, and the elder Langenbeck. They made an open incision and dissected the sac from the cord then ligated it as high up as possible. Langenbeck stated that he had performed the operation twelve times with the most successful results. The method, however, did not meet with general approval and does not seem to have been much employed. With the introduction of subcutaneous surgery by Stromeyer in 1835 there followed attempts to apply its principles to the cure of hernia. The most notable examples were the methods of Gerdy and Wützer, and a little later that of John Wood of London, which was a combination of the open and subcutaneous methods. Wood's operation was introduced in England in 1857, and even to recent times was more generally employed than any other, both in Europe and in America. The best results were obtained by Wood himself who claimed a large percentage of cures. The mortality after this method was about seven per cent., though in his later series of cases it was reduced very considerably.

By modern methods we mean those that have been introduced, or rather reintroduced, since the great discoveries of Lister and Pasteur.

In the first place a distinction should be made between operations for strangulated hernia and those deliberately undertaken for the purpose of effecting a radical cure. Strange as it may seem the operation for strangulated hernia is of much more recent origin than that for non-strangulated hernia. Up to the Seventeenth Century taxis alone had been used for strangulation, and to Pierre Franco, a stone-cutter, must be given the honor of introducing herniotomy in 1652. His minute description of the operation forms one of the bright spots in the surgery of that period. Franco's method was taken up and most strongly endorsed by Ambroise Paré, who first advocated operation for all cases of strangulated hernia. His teaching, however, fell on barren ground, and it was not until two centuries later that herniotomy became generally adopted.

Up to the beginning of the Nineteenth Century it was practically unknown in America. In the life of J. C. Warren,[1] we find it stated that when he began to operate in Boston (about 1804) the operation for stranugulated hernia was unknown. He had just returned from England, and attempted to put into practice what he had learned from his illustrious teacher, Sir Astley Cooper, but when he proposed to operate on a patient with strangulated hernia he was met with the greatest opposition, both from the other physicians and from the friends of the patient. He finally gained consent to operate, but the long delay caused the death of the first two or three patients. Convinced that he was right his genius and courage enabled him to go on, and the brilliant results of his later cases did much toward establishing the operation for strangulated hernia in America upon the solid foundation that it has ever since enjoyed. It does not appear, however, that any serious attempts were made to effect a radical cure until after the introduction of Lister's methods of antisepsis.

Henry O. Marcy of Boston, who had enjoyed the privilege of personal instruction under Lister in 1870, appears to have been the first to operate upon strangulated hernia under antiseptic methods, and to close the inguinal canal by means of absorbable buried sutures of catgut. On February 19, 1871, he operated upon a woman aged fifty years for strangulated inguinal hernia, and closed the canal by "two stitches of medium-sized catgut directly through the pillars of the ring." On March 10, 1871, he operated upon a second patient with strangulated hernia, also a woman, and closed the canal "by three large-sized catgut sutures passed deeply through the pillars of the ring, and the wound was carefully dressed antiseptically with Lister's carbolic plaster."[2] The sac was not opened in either of these cases.

Dr. Marcy's first attempt to cure non-strangulated hernia by operation was on February 4, 1878, or several years subsequent to the operations of Steele, Annandale, and Czerny. Richard Steele of London deserves the honor of first attempting to cure non-strangulated inguinal hernia after the introduction of antiseptic methods, though he very modestly states that it seems such a very natural proceeding he does not doubt that others have done it before him. Steele's patient[3] was a boy eight years of age. He cut down upon the canal, exposed the pillars of the ring, pared their edges, and united them with catgut sutures. The hernia recurred in six months, became strangulated, but was reduced by taxis. Steele

[1] Vol. 1, p. 37.
[2] *Boston Med. and Surg. Journal*, November 16, 1871.
[3] *British Medical Journal*, p. 584, November 7, 1874.

then did a second operation, and the patient was well one year later. This case does not seem to have received the attention it deserved, and to Czerny is usually given the credit of being the author of the modern operation. His first published report described five cases.[1] His first patient was operated upon for non-strangulated hernia January 1, 1877, more than three years later than Steele's. Czerny's operation showed a distinct advance over the operations of Marcy and Steele, *viz.*, he dissected out the sac and ligated it before suturing the canal. From the limited experience derived from his early cases Czerny concluded that the thousand-year-old problem of surgery was nearing solution.

Time will permit but the briefest references to the more important of the numerous methods devised since Czerny's first report. As early as 1879 Tilanus of Amsterdam had collected and reported before the International Medical Congress 122 cases in which operation was performed by supposedly antiseptic methods. Seventy-nine of these cases were non-strangulated and forty-three were strangulated. Too few of the patients had been traced sufficiently long to justify conclusions as to the permanence of the cure, and the immediate mortality of six per cent. made many physicians hesitate to advise and surgeons to perform the operation. The subject, however, was so fascinating and the goal of such inestimable importance that the minds of the leading surgeons of the world were engaged in attempting to modify the old methods or to devise new ones with a view of diminishing the dangers and improving the final result. The methods at present in vogue are the result of somewhat rapid evolution in accordance with the law of survival of the fittest. Not one but many workers in the field deserve lasting honor for the part they have played in conferring a priceless boon upon humanity. Among these names should be mentioned Steele, Czerny, Annandale, Marcy, Banks, Championnierre, MacEwen, Barker, Ball, Socin, Bassini, Bull, Weir, Halsted, and Kocher. These surgeons have apparently worked out their ideas independently, and each deserves credit proportionate to the value of the special features in his method which will survive.

While many of the earlier methods have been superseded by the newer and better, we must not forget that the experience derived from the older methods has made it possible to discover their shortcomings and to devise remedies, therefore let us not refuse them a place of honor. There are still a number of methods in vogue, each of which is represented by its advocate as the ideal operation, and it is clearly our duty to study these carefully and attempt to discover, if possible, the best. I wish the time permitted a full description of these methods because their technic is not always understood by surgeons who perform them.

Were I called upon to give what I believe to be the most frequent errors of technic and those most responsible for failure to obtain good results, I would say (1) an incision of insufficient length, both in skin and aponeurosis (it should be at least three inches long), and placed too low down. (2) Failure to dissect back the aponeurosis of the external oblique well over to the edge of the rectus muscle. (3) Careless or unskilful dissection of the sac from the cord and the surrounding tissues, thus prolonging the operation and bruising the tissues, and thereby lessening the chance of primary union. (4) Too great tension upon the buried sutures, or the use of non-absorbable sutures.

The question of sutures I will discuss later.

I do not need to tell you that the essential feature wherein Halsted's method differs from Bassini's lies in the treatment of the cord and the closure of the canal. In Bassini's method the canal is closed by suturing the internal oblique and transversalis to the shelving portion of Poupart's ligament (which must always be very clearly exposed) the aponeurosis being carefully retracted on either side during this suturing. The rent in the aponeurosis is then closed from above downward as before by means of a continuous suture, until at the lower angle just enough space is left to permit the cord to pass without undue compression.

In Halsted's method, on the other hand, the cord is transplanted more externally, so that it lies just beneath the skin and superficial fascia. The aponeurosis with the underlying muscles and transversalis fascia, on the one side, being united to the transversalis fascia, Pourpart's ligament and the aponeurosis on the other by means of a single row of five or six mattress sutures. One sees at once that if the cord were left in its normal position there would be great danger of relapse at the point where it emerges. To lessen this danger it was ingeniously proposed to remove "all but one or two of the veins of the cord." Whether or not such a procedure might not cause atrophy of the testis was a matter that experience alone could determine. The subsequent histories of Halsted's own cases as well as those of other observers have proven that this result not infrequently occurs.

From a recent and as yet unpublished report of the results at the Johns Hopkins Hospital Dr. Bloodgood has kindly given me the following very interesting and valuable statistics: Of 109 patients operated upon by Halsted's typical method with

[1] *Wien. Med. Woch.*, No. 23, 1877, p. 527.

excision of the veins there was no relapse, while in 86 cases operated upon by the same method with the single exception that the veins were not excised there were 8 relapses or 9 per cent., 56 of these patients were observed from one to nine years. Bloodgood concludes that Halsted's operation with excision of the veins will give perfect results if primary union be secured, though he admits that excision of the veins is liable to be followed by atrophy of the testis and is, therefore, not always to be recommended. He would not excise the veins in children or in patients in whom the cord had been subjected to traumatism during the dissection of the sac. The number of cases in which atrophy of the testis followed excision of the veins is not noted, but it is stated that it was only observed in those cases complicated by epididymitis. Bloodgood therefore reasons that as the probabilities of epididymitis would be much less after excision of the veins, if the vas and its immediate vessels are not displaced, it would be as well to leave the remainder of the cord undisturbed and he goes on to say that "the cord reduced to such a diminutive size will be as little likely to be the cause of a recurrence in the lower angle of the wound as in the upper angle when it is transplanted."

This is practically an admission that one of the leading features of the method, *viz.*, the excision of the veins is not always free from risk, and that another and perhaps the most important, the transplanting of the cord, if they are excised, is unnecessary.

There is another point in which Halsted's method differs from Bassini's, which though seldom mentioned is, I believe, one of great importance, and that is the free division of the internal oblique and transversalis muscles and the transversalis fascia, or in other words the entire floor of the canal as well as the roof. The free division of the internal oblique has, I think, nothing to recommend it, and since gentle stretching of the fibers and pushing them upwards will always permit of the sac being excised well beyond the neck, it would seem unnecessary. We are willing to grant that the union of divided muscular tissue should be firmer than the union of fascia, but undivided muscle should be firmer still. In the event of failure to secure primary union the dangers of relapse are greatly increased, if these deep structures have been divided and the relapse, if it does occur, will almost surely be more serious in character and more difficult to treat.

After all that may be said on either side in the way of theoretical considerations the question of preference must be finally settled by practical results. If the results of several different methods are the same, that method which is the simpler in technic should have the preference. While Halsted's method in his own hands and in the hands of his skilful colleagues at the Johns Hopkins Hospital has yielded most brilliant results, they are not equal to Bassini's personal results. In the results of other surgeons we find a much greater difference in favor of Bassini's method. The technic is far simpler, and we believe the rapidly increasing favor with which it is regarded both in Europe and America shows that it is destined in the near future to supplant all other methods.

It is hard for us to realize that the radical cure of hernia has made such tremendous advances in a single decade. In 1890, Bull, who had faithfully tried the best of the methods then in vogue, and on a larger scale than any surgeon in America (in 134 cases) was obliged to confess that his "observations go to strengthen the conviction that all methods of radical cure will be found unsatisfactory." He did not, however, discourage further efforts to improve upon these methods of operation, but merely wished to depict the situation as it actually existed. He was one of the first to subject operations for radical cure to critical tests and to point out that the term "cure" could not rightly be applied to patients who had merely recovered from operations and had not been observed for a considerable period afterward. To show how rapidly advances have come in this field of surgery, the ink was scarcely dry upon the valuable but gloomy paper of Bull when appeared Bassini's brilliant report of 251 patients, operated upon with but a single death, and all but four of them traced from a few months to four and a half years with only seven relapses. Whether or not these same good results were possible in the hands of other surgeons remained for the succeeding years to tell. Nearly a decade has now passed and few surgeons and still fewer physicians realize the tremendous revolution that has occurred in the operative treatment of hernia. Instead of an operation with a mortality of 6 per cent., alone sufficient to make the conservative surgeon hesitate to recommend it, except in cases of urgent need, and with nearly a half of the cases relapsing within a comparatively short time, what is the situation to-day? We find the mortality of leading operations reduced to less than 1 per cent., and that the final results in large series of cases carefully traced show almost entire freedom from relapse. Instead of 30 to 50 per cent. followed by suppuration we find 5 to 10 per cent. If you will pardon a reference to personal work which is given merely to show what any one may accomplish provided he

gives the proper attention to the technic of the operation I will give a brief abstract of my most recent statistics. Since August, 1891, I have operated upon 639 hernias with one death. These are divided as follows: 585 inguinal, 40 femoral, 14 umbilical and ventral. Of this number all except 60 have been traced. 549 patients with inguinal hernia were operated upon by Bassini's method (with 5 relapses) kangaroo tendon being employed for the buried sutures. Of this number, 493 patients have been traced as follows: 4 were sound after 7 years; 4 after 6 to 7 years; 9 after 5 to 6 years; 19 after 4 to 5 years; 69 after 3 to 4 years; 91 after 2 to 3 years; 132 after 1 to 2 years; 101 after 6 months to 1 year, and the remainder after less than 6 months. In regard to wound healing 96 per cent. of the patients operated upon by Bassini's method healed by primary union. The single death was due to double pneumonia without wound complications.

The only points in which I have departed from the original technic laid down by Bassini have been in the substitution of chromicized kangaroo tendon for silk in the buried sutures. I have recently been told by a former assistant of Bassini that Bassini himself has used chromicized catgut instead of silk since 1892. Second, I have introduced a suture just above the cord, passing it through the same structures as those below the cord, with a desire to prevent any further separation of the tissues above the new internal ring and keeping the cord restricted to narrower limits. That these slight changes, too trivial to be called modifications, have been of advantage the results in my series of operations would seem to prove.

Among the many questions of importance in connection with the subject of radical cure of hernia that are still unsettled is that of the best suture material. Silk, silver wire, catgut, kangaroo tendon, silkworn gut, each one has its ardent supporters. Were the question of less importance I should not attempt to discuss it at this time. Like the choice of operative methods, this question also must finally be settled by careful observations based upon large experience and theoretical considerations must again be placed in the background. Silk was probably used by the ancients. Catgut, introduced by Lister, was probably also first used by Lister to close a hernia wound. Czerny used catgut in his earlier cases, but later owing to the difficulty in rendering it completely sterile, substituted silk. Banks whose name must always be mentioned foremost among the pioneers in operations for the cure of hernia, states[1] that the only point of novelty he could claim in the operation which he successfully performed was in the substitution of silver wire for catgut. He closed the external ring with two or three buried sutures of stout silver wire. Macewen modified the simple catgut suture by chromicizing the gut sufficiently to maintain it in the tissue three or four weeks before absorption took place.

This was a most important modification and the suture of chromicized catgut is to-day, I believe, with the possible exception of kangaroo tendon, the best suture for hernia operation. Shortly after 1890 silkworn gut was introduced as the ideal buried suture, and for a long time it was largely used in operation for hernia, especially in the United States. The advantages of kangaroo tendon, over catgut seem to have been first recognized by Dr. T. M. Girdlestone, a lecturer on surgery at the University of Melbourne. As early as 1877 he brought it to the notice of the Medical Society of Victoria, and in November, 1881, through Sir Thomas Smith of London, he addressed a communication to the Medico-Chirurgical Society of London. In this paper[1] he stated that the tendon suture resists the softening influence of the tissues much longer than catgut. He prepared it according to Lister's method of preparing catgut in carbolic oil, but also stated that if desired it could be furthered hardened by putting it in chromic acid one-half per-cent. solution for seven hours. It has been largely due to the writings of Marcy that it has come to be used so largely in operations for hernia. I have personally employed it in upward of 600 operations for hernia and I regard it as practically an ideal suture. The only difficulty has been in securing tendons of the proper size. If too large they remain in the tissues too long before absorption, and thus are open to the same objections that hold true of non-absorbable sutures. Split tendons should never be used as they are lacking in strength, and are of uneven caliber. Girdlestone himself in 1881 pointed out this fact. Some judgment is needed in selecting the proper size. I prefer for the deeper sutures a tendon equal in size to a No. 2 or No. 3 catgut, while a tendon the size of a No. 1 catgut, or even smaller, will suffice for the closure of the aponeurosis. The cost of the tendons and the difficulty of obtaining tendons of suitable size and strength are objections of some weight. I am not sure that a carefully prepared and properly chromicized cutgut will not prove nearly if not quite as good a suture for hernia as kangaroo tendon, and this is fortunate inasmuch as the supply of tendons is likely to prove insufficient to meet a largely increased demand.

The real and important objection to silk, silver wire, and the whole list of non-absorbable sutures,

[1] *Brit. Med. Jour.*, November 18, 1882.

[1] *Trans. of Medico-Chirurg. Soc.*, 1882.

remains to be noted, and is their liability to cause sinuses at long periods after operation. This objection is not theoretical but based upon personal observation of twenty-seven patients at the Hospital for Ruptured and Crippled, as well as upon numerous reports of other observers. In every one of these cases a sinus developed at periods varying from a few months to three years and eight months after operation. This condition of sinus formation is a serious one, inasmuch as the healing of the sinuses often requires many months and seldom become permanent until the last of the offending sutures has been removed. Nor is this the end, for the prolonged suppuration has in most cases so weakened the canal that relapse usually follows. Thus what might have been a successful operation for the radical cure of hernia has become a complete failure owing solely to the use of a non-absorbable suture. The reasons formerly advanced by surgeons for using non-absorbable sutures were that catgut could not be satisfactorily sterilized, but with our improved methods of sterilization such reasons no longer obtain. A comparison of the statistics as regards wound healing of the surgeons who use catgut and those who use non-absorbable sutures will disprove the validity of such claims.

Primary wound healing was obtained in but 80 per cent. of Halsted's series of cases in which silk was used for the buried sutures, and his later statistics of 261 cases in which silk, silver wire, and silkworm gut were used, 31 suppurated or 11 per cent. These patients, we must remember, were operated upon at a hospital which enjoyed a reputation above all others for the perfection of its aseptic technic. Yet the statistics of other surgeons, under much less favorable operative conditions, who have used absorbable buried sutures show better results as regards primary wound healing. I mention these facts simply to show that the claim, that non-absorbable sutures are necessary to obtain the best results in primary wound-healing, is entirely unfounded. Therefore, there is no logical reason why the final results of the operation should be jeopardized by their use.

With the vast improvement that has taken place during the past decade in methods and results of operations for radical cure, the indications for operation have markedly increased, though in some respects the present views as to selection of cases for operation differ materially from those held ten years ago. At that time operations were almost entirely confined to adults. This was due to the fact that some regarded the operation as more dangerous in children, and others believed that all ruptures in children could be cured by mechanical means. We now know that both these suppositions were erroneous. The results of large series of operations indicate that the operation is less dangerous in children than in adults; and furthermore a careful study of the after history of a large number of children with hernia has proved that at least one-third of such children pass on into adult life with the hernia uncured by mechanical means. This does not warrant us in advising operation in all cases of hernia in children. At the Hospital for Ruptured and Crippled in New York we have adopted the following rules in the selection of cases and it will be seen at once that these are fairly conservative: Operation is advised (1) in children over four years of age on whom a truss has been given a fair trial without marked improvement. (2) In cases complicated by fluid in the hernial sac (reducible hydrocele). (3) In all cases of femoral hernia, since this form of hernia offers little or no hope of cure through mechanical treatment.

The practice of operating upon infants under one year of age or even two or three years is, I believe, open to serious criticism. Umbilical hernia in infants and children should with some exceptions never be operated upon, for the reason that it is almost invariably cured by other means. With regard to adults it is not longer considered advisable to operate upon the very large and long irreducible herniæ in patients beyond middle life. The operation is attended with grave risks and a speedy return of the hernia will almost certainly occur. The same is true of the large irreducible umbilical hernia especially common in very stout women. While we cannot hope to cure such patients by operation, we should bear in mind that there has been a time when every one of these patients could have been operated upon with a fair prospect of success. Hence the importance of operating early.

Inasmuch as there is only slight prospect of a cure being effected by a truss after the age of twenty years, we can now advise operation in such cases, especially since it is no longer attended with appreciable risk, and the prospect of a permanent cure is very great. Operation should seldom be advised in patients over sixty years of age.

Inguinal hernia in the female has thus far received but little attention, and yet this variety of hernia yields the best results of all under operative treatment. Championnière was the first to urge operation in these cases, and he has recently reported forty-nine cases. His method was to excise the round ligament along with the sac, but I believe this to be, not without objection, and, moreover, entirely unnecessary. The sac can in every case be dissected free from the ligament with a little care and patience.

Kelly[1] of Baltimore transplants the round ligament exactly as Halsted transplants the cord in inguinal hernia in the male and closes the wound by Halsted's method. During the past eight years I have operated upon 100 females with inguinal hernia, and although the patients have been most carefully traced not a single relapse has been observed. The method employed is precisely similar to Bassini's operation in the male, with the transplantation of the cord omitted. The sac having been carefully dissected from the round ligament well beyond the internal ring, is tied off and excised. The round ligament is then allowed to drop down into the lower angle of the wound, and the wound is closed in two layers with buried sutures, according to Bassini's technic. The operation is much simpler than the one performed by Kelly, and the results thus far obtained are perfect.

Time will permit of but the briefest reference to the radical cure of femoral hernia. It is not generally recognized by the profession that the results of operation for femoral hernia are even more successful than for inguinal. Although a great variety of methods, many of them complex in technic and difficult to perform, have been proposed, the simple methods have been found to give the most satisfactory results. Bassini[2] has reported 54 patients operated upon by his own method, without mortality, and 41 of these were traced from one to nine years without a single relapse. Of my own cases, 40 in number, Bassini's method was employed in sixteen, and the method of high ligation and incision of the sac, with closure of the femoral canal by means of a purse-string suture of kangaroo tendons was used in the remainder. The single relapse observed occurred in a patient operated upon by Bassini's method, and it is worthy of note that this was the only case in which there was a failure to secure primary union.

It would not be right to close this brief and very imperfect sketch without saying a few words upon the final results of operations for hernia, in other words, upon the permanency of the cure. Do operations, even according to the best methods, and skillfully performed, really cure the patient, or is he only temporarily relieved? The answer to the question must as yet be more or less tentative. If by a permanent cure we mean freedom from relapse, as long as the patient lives, then, of course, the time has yet been too short for us to make dogmatic statements. Fortunately, however, we already possess sufficient data to enable us to draw fairly accurate conclusions. The careful study of 361 cases of relapse following various operations for inguinal and femoral hernia observed at the Hospital for Ruptured and Crippled during the past ten years shows the important fact that the great majority of relapses occur within the first few months after operation. Sixty-four and a half per cent. occurred during the first six months and 80 per cent. during the first year, between one and two years after operation 8.89 per cent. relapsed.

From these facts we are justified in concluding that in cases well beyond one year the chances of recurrence are very slight though in some cases relapse has been noted twenty years after operation. Under the methods practised a decade ago the percentages of relapses even during the first two years ranged between thirty and forty per cent. Under the improved method now in use, especially Bassini's, and even with a much more careful tracing of patients this percentage has been reduced to a minimum.

Such then at the dawn of the Twentieth Century is the present status of the radical cure of hernia. "The thousand-year old problem of surgery" has finally been solved in the last quarter of the Nineteenth Century by the happy combination of brilliant genius, rare skill, and unflagging perseverence on the part of many workers in many lands. We must not forget that this combination would have been of little avail without the brilliant discoveries of Morton and Lister. So, that here again in the radical cure of hernia, we find new cause to do them honor and to add to their laurels.

[1] "Operative Gynecology," vol. ii, p. 481.
[2] *Archiv für Klin.*, 1894.

CEREBROSPINAL MENINGITIS.[1]

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SINCE 1874 three severe visitations and many sporadic cases of cerebrospinal meningitis have come to my notice. Every variety of the disease and its various complications and sequelæ were observed. Following the very cold winter of 1873 and 1874 the disease appeared in Evansville, Indiana, and vicinity. Children were most frequently its victims, and nearly all of those who were first taken sick died. The aged were rarely affected, but a few cases occurred in persons over sixty years of age, and they all died. The rate of deaths was more than 60 per cent., and nearly one-half of those who survived were left crippled mentally and physically and for them death would have been preferable to the miserable existence to which they were doomed.

[1] Read before the Louisville Clinical Society, June, 1899.

There were no prodromata. The disease came on suddenly with a chill or chilly sensation, and in young children convulsions often announced the attack Pain usually began in the back of the head low down, but sometimes it was first felt in front, or on top, or on one side. Very rarely was the pain complained of at the onset below the cervical region. Within a few hours, or one or two days, pain, usually lancinating and very severe, extended to the spine, arms, and legs, sometimes girdling the chest and abdomen. Vertigo and nausea were early symptoms, the latter often continuing for six or eight days.

Dimness of vision was sometimes complained of at the beginning of an attack, and this grew worse and partial or complete blindness ensued. Divergent strabismus of one or both eyes appeared in some cases within the first two days of the illness. The face wore a peculiar expression of suffering, sometimes a waxy pallor, and sometimes a purplish red with the eyes suffused. Fever was usually not severe, the temperature rarely reaching 103° F., and in some cases it was below the normal The pulse was slow as a rule, but in starts it would beat as high as 170 to the minute, and without any apparent cause the beats would become less frequent until 40 or 50 to the minute was recorded.

At first, in the moderately severe cases, the pulse was full and strong, but after the first day it became weak and irregular. Mental symptoms appeared early and often were more severe than other phenomena present would indicate. After a few hours or a few days the symptoms became more severe and the muscles of the back and neck were set in tonic contractions with the head thrown back beyond the perpendicular. On attempting to depress the chin the pain in the neck and back was increased. Opisthotonos was present in severe cases and was especially prominent in most of the fulminant variety. The head and feet would come within a few inches of touching each other. In the fulminant form of the disease death in from four to seventy-two hours was the invariable result. All the symptoms gave evidence of intense suffering from the beginning. The pulse recorded 200 at times, again falling below the normal, and the temperature rose to 106° or 107° F. The respiration was irregular and supracostal. Delirium was often wild, sometimes muttering, which ended in coma and death.

Purple-colored spots of various shapes and sizes appeared on the face, neck, body, and legs, which often disappeared suddenly, at times remaining three or four days. Now and then a case was observed in which the patient had a waxy, pale face, feeble, irregular pulse, 35 or 40 to the minute, and a subnormal temperature without opisthotonos or pain which deepened into coma and death in from four to eight hours. This form of the disease was very rarely seen. The disease in such cases seemed to be entirely confined to the brain. When death occurred within the first few hours autopsies revealed nothing of special significance beyond some patches of engorgement along the course of the blood-vessels, over the hemispheres, on the side, at the base, and about the medulla. The cord presented similar appearances though not so markedly as the brain. There was no serous exudation.

Another class of cases, in which the patients died after a week or two, showed more marked changes in the brain and cord The blood-vessels were hyperemic, inflamed, with deposits of lymph smeared over them and in various patches over the hemispheres, in the ventricles, at the base, in the canal, and about the cord. Effusions, serous or purulent, were found at the base, in the ventricles, and in the canal of the cord. Here and there the membranes were adherent to the brain, and numerous minute hemorrhages were observed. In another form of the disease, which was recurrent, the patient died after four or six weeks, or months, paralyzed and exhausted; and the autopsies revealed abscess and degeneration in the brain and cord.

The second epidemic of the disease was in 1877, and nothing different from the first was observed. A few cases of smallpox occurred at the same time. In both visitations croupous pneumonia preceded some cases, complicated others, and became a troublesome sequel in a few of those who survived the meningeal trouble. Pneumonia was present before, during or after the disease in one-fourth of all the cases I saw. In a few instances the cause of death was ascribed to it as it was the most serious feature of the illness.

When the clinical picture of the malady was made up neither the myocologist nor the ophthalmologist was a necessary factor in determing the diagnosis. A few cases only were observed in which there was any doubt as to the diagnosis, but after a day or two all doubts were removed. It would tax the powers of the most accurate observer to describe every detail of the objective symptoms even though sympathy with the sufferer had sharpened and rendered acute the workings of his special senses. But no great difficulty should be experienced in making a diagnosis when it is remembered that the disease is prevaling. In sporadic cases mistakes in diagnosis are more likely to occur. A person in good health, suddenly seized with pain in the head, over the hemispheres, on the side, or at the base, with pain in the back of the neck, along the spine, arms and

legs, sometimes girdling the chest and abdomen, with anxious look, a suffused eye, the face flushed or of a waxy palor, usually a slow pulse 40 to 60 to the minute, with or without fever, and with irregular respiration, may be regarded as having cerebrospinal meningitis. Then add to this the vertigo, the disturbed vision, the hyperesthesia, the sudden changes in temperature, the early delirium and the persistent nausea and vomiting and the diagnosis becomes more apparent. Kernig's sign will be present in all such cases. Since my attention was called to it a few years ago I have not found it absent in any case either of the sporadic or epidemic kind. There is no practical difference in the phenomena of sporadic and epidemic cerebrospinal meningitis. The same sort of bacilli have been found as the cause of each. Only in very exceptional cases will lumbar puncture be required to confirm the diagnosis.

The prognosis was always very uncertain. Even a mild case would take a turn for the worse or be so long protracted that death would result from exhaustion. A high temperature was always an unfavorable indication and it usually preceded death. Recurring cases were the most protracted, but the patients usually recovered, and when the first ten days of illness were past without serious complications recovery was more to be expected.

There was no time limit to the disease. Some patients were able to sit up and go about after two weeks, some after three to nine months, and others were not fully well after two or three years. Many of those who survived the acute part of the disease were left crippled mentally and physically for life. When it is remembered that the cerebrospinal centers are the seat of the disease any sort of complications or sequelæ may be expected to arise. Mental weaknesses were observed; some individuals were deaf, some were dumb, others were blind, and some were paralyzed. Suppuration of the ear and joints with swelling of the latter and contractures occurred.

In the treatment of cerebrospinal meningitis two important points were kept in view: one was an early diagnosis, and the other the free use or opium. Opium was the most useful in the forming stage of the disease, but it was more or less useful in all stages. It proved useful in relieving pain and preventing mental complications, perhaps by arresting serous effusions into the cavities and delicate textures of the brain, as in like manner it controls an intestinal diarrhea. Morphin alone was given hypodermically and the vomiting was often relieved by it, as well as the cerebral trouble. One-third or one-fourth of a grain, repeated at intervals of a few hours, was sufficient to afford relief. In fever the application of ice-bags to the head and spine was useful. Hot foot-baths were useful in equalizing the circulation when the extremities were cold. The bowels were kept open by the use of mild laxatives. The importance of maintaining the strength of the patient was kept in view and food and stimulants were given in moderate quantities from the beginning. When nausea prevented their administration by the mouth various mixtures of eggs, cream, and peptonoids were given by enemata. In the case of patients having a subnormal temperature the full bath, tepid or warm, the patient being allowed to lie in it for half an hour gave much relief. The bath was resorted to two or three times daily. Other remedies which gave temporary relief were phenacetin, phenalgin, kryofin, caffein and codein, but the old remedy, morphin, was the most useful.

Counter-irritants to the neck or spine proved to be useless. Sometimes the application of dry heat to the head and spine was soothing, hot bags of salt, hops, and water, and hot flannels were used. Laminectomy and spinal puncture for diagnostic and therapeutic purposes were not resorted to. Late in the course of the disease some benefit appeared to result from the use of small doses of bichlorid of mercury, one tenth of a grain, three times daily. Iodid of potash and syrup of the iodid of iron and quinin were employed with apparent benefit to the patient. Complications were treated as the indications arose.

Since 1879 numerous sporadic cases of cerebrospinal meningitis have come to my notice either as primary ailments or as secondary results. In acute cases I have found Kernig's sign of much value in making the diagnosis. Cerebrospinal meningitis, as it has recently prevailed in Louisville and throughout the State of Kentucky, has presented no new features. In some localities it has not been quite so fatal as in others. About 30 per cent. of the patients I have seen have died. In the southern part of Kentucky reports would indicate a death-rate of 80 or 85 per cent., with the usual percentage of mental and physical cripples remaining. The usual death-rate recorded is from 20 to 80 per cent.

Let us turn to a brief history of cerebrospinal meningitis, then view it in a clearer light of modern research, and some truths may appear to point the way to a better understanding of this dangerous malady. French writers claim that it was recognized early in the Christian era, but Hirsh by his careful investigations has shown that the claim is not well authenticated. The first accurate report of the disease was given by Viesseaux of Geneva, in 1805, when it prevailed in that city and in various parts of Switzerland. At intervals of a few years it appeared in various parts of Europe but England and

Scotland were the least visited. It spread through Germany, France, Spain, Italy, Denmark, Sweden, Norway, Holland, and Great Britain, especially Ireland, and was known in that country as the "black fever." The disease also appeared in Russia, in Turkey, in Greece, and in Asia Minor. It was first observed in the United States in 1806. It appeared at Medfield, Massachusetts, and soon spread westward to various States, North and South. It appeared at intervals in various cities, towns, and villages and in rural districts, sometimes not in the direct line of human commerce. No very serious epidemic has been recorded in the United States such as occurred in Sweden in 1854, when upward of 4000 deaths resulted from a single epidemic. The disease is said to be indigenous in Germany and it may be said that this is also true of parts of America. It has not been absent from Boston and Philadelphia for twenty-five years, about 6000 deaths have been ascribed to it in and about those cities within that period of time.

Cerebrospinal meningitis made its appearance in Kentucky during the last days of November, 1898, and soon after was observed in various parts of the State. The first case I saw in Louisville was about the middle of December, 1898. The disease had been reported in Boston, New York, and Philadelphia, and in numerous smaller cities and towns about the latter part of August of that year. It occurred in Baltimore and Richmond in October. It seemed to spread westward to various points, north, west, and south. The question of direct communication between infected and non-infected localities has not been clearly traced and the mode of communication from the sick to the well is still a mystery. The weight of evidence shows the disease to be infectious and even contagious, but the number of such cases is not great. The writer has seen five cases in one house, occurring in succession, three in another, and two in another. He is also aware of the case of a lady who came from a village in an adjoining State and remained with a sister for ten days who had meningitis, who, two or three days after returning to her home, was taken sick with the disease. A child contracted it from the mother and a few cases occurred here and there in the village. No case had been known in that locality before. Two nurses who cared for the sick were stricken.

These instances, which point to a direct infection, are few when viewed in the light of several hundred cases where only one occurred in each house. When it is remembered that there is no disease that affects everybody, and that the condition of the host is an important factor before the microbe enters, the few facts gain much force.

The recent discovery of the microbic origin of the disease must confirm the foregoing ideas of infection. Many forms of bacilli have been found in the meningeal exudates, but by far the most constant has been the micrococcus lanceolatus encapsulatus, either alone or with other bacilli. Lately the diplococcus intercellularis meningitidis has been found by numerous mycologists, Weichselbaum being the first to isolate it, in 1877. This bacillus is believed by many to be the cause of epidemic meningitis. All agree that the Freidlander bacillus will cause the disease in a very malignant form. The latter organism was first isolated by Eberth, in 1880. He found it in the cerebral exudates of a case of meningitis following pneumonia. Bozollo and Leyden found the pneumobacillus in 1883. Prudden found the Friedlander bacillus in a case of traumatic meningitis. Netter found the pneumobacillus in sixteen out of thirty cases of meningitis in which pneumonia had not occurred. He also found the micrococcus lanceolatus encapsulatus in the mouths of 80 per cent. of healthy people examined. Pneumonia and meningitis are so frequently associated that Fagge of Erlangen has reported fourteen such cases that came to his knowledge between 1866 and 1872.

In the report of the Board of Health of the State of Massachusetts for 1898 Drs. Councilman, Mallory, and Wright seem to have found in the exudates of cerebrospinal meningitis the diplococcus intercellularis most frequently. In cases in which lumbar puncture was practised within the first ten days of the attack it was nearly always present in the fluid drawn off but later it was not found so frequently.

THE TREATMENT OF TUBERCULOSIS.

By LAWRENCE F. FLICK, M.D.,
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Sufficient progress has been made in the treatment of tuberculosis during the last decade to warrant the removal of the disease from the category of incurable to that of curable diseases. By this is not merely meant that certain patients recovered from tuberculosis, as has been demonstrated on the autopsy-table, but that the power of the physician over the disease has been increased to such an extent as to enable him to cure a fair number of patients and to stay the progress of the disease when he cannot cure. These results have been attained, not by the discovery of specifics, but by the acquisition of a fuller knowledge of the etiology and pathology of the disease, of a better understanding of immunity and nutrition, and of a more exact knowledge of the action of drugs. Unfortunately this progress has not been sufficiently taken account of by the general

practitioner, who still but too often contents himself with smoothing the downward path of his consumptive patient to an inevitable doom with the prescription of cough mixtures and the recommendation of a change of climate.

With tuberculosis, as with everything else in the healing art, success depends more upon attention to details than upon the use of wonderful remedies. The man who has command of the largest number of hygienic, dietetic, and therapeutic resources, and who knows how to use them to the best advantage scores the largest number of successes. Measures which give excellent results in one case may not do so in another and may not do so in the same case in all stages. Hence adaptation of measures to an individual case and ready command of new measures when remedies which have done well no longer answer is of great importance. Sometimes a slight change in the diet or even in the dosage of a remedy will make a change for the better.

Immunity is the fundamental principle underlying the treatment of tuberculosis. Whatever makes for immunity makes for recovery. The chief means at our command for attaining immunity are: first, nutrition; second, drugs; and third, antitoxins. Nutrition must be assigned first place by all odds. For the attainment of nutrition we have forced feeding, artificial digestion, rest, exercise, and climate. By forced feeding is meant the taking in of a very large quantity of easily digested and readily assimilated food. In practising forced feeding care should be exercised to adapt the food to the individual and to inquire with the minutest detail into the patient's habits of eating and his capacity for digesting food. What agrees with one often disagrees with another. The best criterion as to whether the right food and the proper amount is taken is to be found in the patient's weight. If he is gaining in weight it may be assumed that he is getting the proper food and in proper quantities. When the stomach is incompetent to do its work, or when the secretions of the salivary glands or of the pancreas are deficient artificial digestion should be resorted to. Albuminous food may be predigested or pepsin and hydrochloric acid may be administered after meals to aid the stomach in digesting such food.

The digestion of starchy food may be aided by the administration of diastase in some form. All the organs concerned in digestion and nutrition should be carefully watched and kept up to their full standard of activity. In this connection the liver, intestines, and kidneys should not be lost sight of. The bowels should be kept open and the kidneys protected against overwork. And it must not be forgotten that oxidation is an important stage of the nutritive process. A liberal air-supply is as essential to healthy nutrition as ample good food, competent digestion, and assimilation and proper elimination. Life in the open air should, therefore, be pursued as far as practicable. The living and sleeping-rooms, when house-life is followed, should always be well ventilated. It does not make as much difference from whence the air is obtained as that the air be free from the products of combustion given off in respiration. Rebreathed air above all should be avoided. The old prejudice against night air, city air, and sea air may safely be laid aside. Of course country air is better than city air because it is freer from impurities of various kinds, but for the purposes of nutrition, city air, if it is obtained from out of doors, answers very well. Only let the consumptive have lots of it both by day and by night. A good plan is to allow him to lie out of doors in a hammock, well clothed and wrapped. If he cannot lie out of doors the recumbent position in a room with windows open is next to be preferred. A draught of air need not be feared provided the patient is properly protected with wraps. But outdoor life must not be interpreted to mean constant exercise. There is great danger in over-exertion. During activity of the disease as manifested by fever and acceleration of heart-action better results can be obtained from rest than from any other measure. In proportion as the active symptoms disappear rest may be supplanted, first by passive exercise, and then gradually by active and then more active exercise, until finally the patient may be allowed to do a hard day's work. When the circulation has resumed its normal course exercise becomes a useful means for the furtherance of nutrition. It should, however, be used under the direction of a physician.

Climate no longer plays as important a part in the treatment of tuberculosis as it did a few years ago. We know now that it is not so much the climate as the outdoor life that makes our patients do better when they go to the mountains. The idea that certain climates have a specific influence over tuberculosis was born of a misapprehension. Because certain regions which had not yet been infected were free from consumption the profession jumped at the conclusion that there was something in the climate of those regions which militated against the disease. Those regions have all become more or less infected and we now know that there is very little in climate itself that will ward off or cure consumption. During the acute stage of tuberculosis better results can be obtained at home, even if that home be in a densely populated city, than away from home, unless the patient can be placed in a well-equipped sanatorium. The mod-

ern sanatorium undoubtedly offers the best chance of recovery to the consumptive; but outside of a sanatorium, in acute cases, the chances of recovery are better at home than away from home. After acute symptoms have passed excellent results may be obtained by a change of climate, and then a climate should be selected to suit the idiosyncrasies of the patient. Persons with weak hearts do better at a low elevation than at a high one and sometimes do best at sea-level, and preferably at the seashore or on the ocean. Persons of vigorous circulation or of nervous or lymphatic temperament usually do better in an elevated climate. It is, however, not always a good plan to keep a patient in the same climate too long as there is some benefit to be derived from a change irrespective of what there may be in the climate itself.

What can be accomplished by drugs in the treatment of tuberculosis? A great deal if the drugs are judiciously used. We have no specifics for tuberculosis and may never get any, but we have valuable adjuvants and are constantly adding new ones to the list. In my own experience I have found iodin the the most valuable remedy at our command. I use it in the form of europhen, which I introduce by inunction. The following is the formula which I employ: Europhen, ʒ i; oil of rose, *m.*j; oil of anise, ʒ i, and olive-oil, ʒ iiss. Of this I have the patient rub from a teaspoonful to a tablespoonful into the armpits and into the inside of the thighs once or twice a day. Formerly I used iodoform in this way but owing to its offensive odor I have discarded it in favor of europhen, which is even richer in iodin than iodoform. As the patient becomes more tolerant of the iodin I sometimes reinforce the inunctions by giving the europhen by the mouth in addition. I have tested the value of this treatment for a long enough period to convince me that it is real and worthy of confidence. The treatment ought to be kept up for a long time and even after all symptoms of the disease have disappeared.

The next most valuable drug in my experience is creosote. This is of especial value in the more advanced stages of the disease. In all cases of tuberculosis which have advanced to the stage of breaking down I give creosote in addition to europhen inunctions as a routine treatment. In order to get the full benefit of creosote large doses should be given. I begin with 1 drop and increase the dose gradually until the patient takes from 40 to 50 drops three times a day. The best vehicle which I have found for administering the drug is hot water. As I increase the dose of creosote I increase the amount of hot water, and in this way my patients find themselves able to take large doses of the drug without inconvenience. The maximum dose is usually taken in a pint of water. As a rule I order the creosote taken before meals and am under the impression that it stimulates the appetite. I use pure beechwood creosote in preference to other preparations because it is less expensive.

The third place in the order of importance in the value of drugs for the treatment of tuberculosis I unhesitatingly assign to strychnin. In what way it acts I do not know, but if given in proper doses it helps to increase weight and improves the heart-action. As a rule it ought to be given in large doses, but all patients do not bear large doses well. The dose should be changed from time to time. Other drugs that are useful in properly selected cases are arsenic, digitalis, mercury, both in the form of calomel and corrosive sublimate, belladonna, muriate of ammonia, aromatic spirits of ammonia, nitroglycerin, the mineral acids, and the vegetable tonics. Most of these drugs may be used to advantage for building up nutrition. Nitroglycerin is useful for checking hemorrhage, ammonia for stimulating the secretions of the bronchial glands.

Antitoxins in the treatment of tuberculosis are still on trial and for self-evident reasons cannot be judged for some time to come. Of the men who have used them in various forms and modifications the most conservative speak guardedly of their value. There is undoubtedly some merit in them and they seem to be legitimate remedies in the hands of competent persons. The tuberculins, antituberculins, serums, and nucleins may all be grouped under the head of antitoxins as they all probably act in the same way. I have as yet had no experience with any of these preparations, but for some time I have used a modification of antitoxin treatment, if I may so call it, which has given good results. I place an ordinary fly-blister over the affected lung, front or back, and allow it to remain in place about an hour. I then have the plaster removed and the skin washed with warm water. In the course of a few hours a large vesicle will rise and as the epidermis has not been broken the serum is retained and in twenty-four hours is reabsorbed. During the process of resorption of the serum chills, malaise, and some fever are liable to occur and the whole picture of the clinical symptoms is similar to that which has been described as occurring after the injection of antituberculin. For the occurrence of these phenomena I have only the word of patients, as I have not had an opportunity of making careful bedside observations. I believe I can safely say, however, that benefit follows the application of a blister in this way, and that the benefit is greater than that which ordinarily follows the application of a blister.

EMPYEMA FROM A SURGICAL STANDPOINT.[1]

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I HAVE very little that is new to add to a subject upon which so much has been written, but there are a few points that I think will bear repeated emphasis until it is more thoroughly recognized that pus in the pleural cavity needs as early and complete evacuation as it does when in the abdominal cavity. My conclusions are drawn entirely from my own experience and they have been reached after much thought and observation.

Anesthesia.—In the hands of a skilled etherizer there are very few cases in adults, to which class my experience has been largely limited, in which ether cannot be given; but unless properly given and with intelligent supervision of each inspiration it may be dangerous. It can be given to children easily controlled, while in very young children the stage of unconsciousness is so rapidly attained that its use is safe in a large majority of cases. The rule of giving fresh ether or fresh air, avoiding asphyxiation, must always be observed. I have seen collapse from ether in an infant in one case, but in this instance, and probably in similar cases, the operation had been so long delayed that anything beyond aspiration would have produced collapse. I have used chloroform in double empyema in children, and when struggling and coughing had to be reduced to the minimum. In adults, however, with whom one can reason, I believe that ether is safe and preferable in a large proportion of cases. I have used it without evoking any symptoms to cause anxiety in patients with deep cyanosis, delirium, muscular twitching, intermittent pulse, and excessively rapid respiration; in a woman, seven-months pregnant, with deep cyanosis and a weak, rapid pulse; in a man with the left chest so full of pus that the spleen was pushed down to the ilium and so distressed in his breathing that he could not lie down. On the other hand, in one case, a man profoundly poisoned with streptococcic absorption, ether was taken badly, the stage of excitement was marked, and undoubtedly in this instance the operation should have been performed under local anesthesia, but such a case is rare. The objection to the use of cocain as a routine means of producing anesthesia is the mental shock and fright added to the peculiar condition of mental distress that is so characteristic of this disease; the struggling which is frequently more marked than in patients properly etherized, and the not infrequent imperfect anesthesia produced. The struggling that attends primary anesthesia with ether is easily controlled, is of short duration, and is not due to suffering.

Expansion of the Lung.—To insure rapid expansion of the lung too much cannot be said to induce physicians to submit their patients to early operation. Were this principle followed more strictly than it is such operations as those devised by Schede and Estlander would rarely be required. One cannot tell beforehand in what type of case the lung will expand early, and although occasionally a patient is seen in whom, after conservative treatment, rapid expansion follows a late operation, these cases are exceptional and are dangerous precedents. To have the compressed lung follow one's finger to complete expansion as the pus flows from the chest is most satisfactory both to patient and surgeon, while to submit a patient after months or years of treatment for a persistent sinus to a severe operation, a long convalescence, and a deformed and inadequate chest is disheartening to say the least. I have doubts of one's ability to foretell what lung will expand rapidly in all cases. Of two adults with streptococcic empyema following pneumonia, operated upon within a few days after the onset of the empyema, when the conditions were as nearly alike as possible, the lung in the one case followed the evacuation of the pus and expanded to completion at once, while in the other the lung refused to expand to any extent by the end of a week, when death took place from a pneumonia of the opposite lung. In another streptococcic case treated expectantly for two months the lung steadily expanded, in a few weeks after resection of a rib, but this is an exceptional case and an unsafe example to follow. I have had delayed expansion or incomplete permanent expansion in both pneumococcic and streptococcic empyema, but when the operation has been done soon after the formation of pus immediate expansion has taken place in both types, though as a rule complete expansion is rather apt to be slower in the pneumococcic cases, that is, full resonance is not noted before several weeks. The cases of incomplete expansion in which operation has been delayed are usually those of mixed infection, and the severer secondary operations have been resorted to after long and tedious drainage.

It is a well-established rule that pus should be evacuated as soon as it is discovered, and yet I know of no place where this principle is more applicable than in cases with pus in the pleura, a principle that in my experience is constantly violated by practitioners of large experience.

It should be borne in mind also that incomplete expansion may come from imperfect drainage, from relapse consequent upon a return to a life of hard-

[1] Read at the sixteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

ship or dissipation too soon after healing of the wound, and from an accident that occasionally happens, the loss, unknown to patient and surgeon, of a drainage-tube or a sponge in the pleural cavity.

The sinuses that persist in tuberculous patients form a class by themselves and are not considered here.

Cause of Death.—The deaths in my cases have come from dislodgment of an embolus from hearts displaced by a left pleural cavity filled with pus; from a relapse or an extension of a pneumonia, and in the streptococcic cases from a rapid general infection. In the first class of cases, especially of long standing, one or more preliminary aspirations to reduce the distention gradually are safer, but in recent cases it seems sufficient to evacuate slowly at the operation and then to enforce absolute rest for a few days. The streptococcic cases occasionally are so rapidly fatal that, no matter how early the cavity is emptied, nothing is of avail; but in those not so acutely poisoned, when there is a steady and persistent absorption, the chances of recovery are far less after a late than after an early operation, and this possibility is very apt to be overlooked by those who have had but little experience in pyemia and septicemia.

Technic.—The operation for empyema is well described in all text-books, but I wish to suggest some modifications that have proved useful to myself and which may be of some help to the practitioner who is called upon but rarely to undertake the operation.

I make it a rule to explore with a trocar for diagnosis as soon as the patient is anesthetized. In old left-sided cases, with marked displacement of the heart, the pus may be withdrawn by preliminary aspiration to avoid the risk of embolism. I rarely open between the ribs; drainage is not so satisfactory and, unless there are urgent indications to the contrary, resection of a rib is practically as safe, and in other ways is better surgically in the large majority of cases.

The incision, especially in cases requiring rapid operation under primary anesthesia, is best made at a right angle to the rib. There is no danger of missing the rib selected; it can be reached at one stroke, and plenty of room is allowed for resection. Practically I now use this incision in all cases. It is not necessary to resect the rib at the lowest level. Personally I prefer the seventh or eighth; the cavity usually found is just as well drained at this level and there is no danger of wounding the diaphragm.

In cleaning the periosteum from the rib I prefer a periosteum elevator without a cutting edge—the handle of a knife or a pair of scissors curved on the flat is equally good—because the danger and annoyance of wounding the artery is reduced to a minimum.

The cavity drains equally as well if made in the anterior or mid-axillary line as when made far back where the rib is more difficult of access. The drainage-tube should be short; it should not project beyond the inner surface of the chest. The cavity drains better and the irritation of the lung pressing on the end of a long tube is obviated.

When a suitable operating-table is at hand the operation may be done with the patient half sitting up, the arm of the affected side being held over the head. In this position free respiration is allowed to the healthy side and free access is given to all but the furthermost portion of the chest posteriorly. Moreover, most patients breathe more easily in this position.

After operation patients improve more rapidly if they are allowed to sit up as soon as they can do so safely. Systematic lung and chest exercises, climbing hills, running, etc., are all valuable aids in expanding the lungs. The pneumatic cabinet, and in obstinate cases, removal to a high altitude should be of value also, though I have had no experience to verify the latter suggestions.

CLINICAL MEMORANDUM.

A CASE OF SARCOMA OF THE TONSIL. THREE REMOVALS, RECURRENCE AFTER EACH. DEATH FROM METASTASES IN MESENTERY AND BOWEL.[1]

J. MORRISON RAY, M.D.,
OF LOUISVILLE, KY.

Sarcoma of the tonsil has been looked upon as a rare condition, this view being largely due to the statements found in the text-books of McKenzie and Bosworth. The former under the general head of cancer of the tonsil remarks that the disease is rare; yet later, in the same chapter, states that lymphomata, or lymphosarcoma are found as a part of a general condition. Bosworth could find in 1892 only 45 cases that could be considered as having their origin in the tissues of the tonsil.

In 1895 Lamphear found 71 cases recorded. Since then it has not been uncommon to see isolated cases reported. Very few surgeons have seen more than 1 or 2 cases in a long and extensive experience.

I wish to report a case that in many respects is unique: W. H. H., aged thirty-seven years, consulted me May 7, 1898, with the following history: For two months he had noticed a small mass forming in his throat on the left side. No pain or other discomfort until the past few

[1] Presented to the American Laryngological, Rhinological, and Otological Society at its annual meeting, May, 1899, Cincinnati, Ohio.

days, when it began to be sore and present a sense of something in the throat, and seemed to interfere with talking by the presence of a fulness. He had been in poor health for several months, had lost flesh, and said he had dyspepsia. His family history was negative. On examination, I found on the left side, hanging by a narrow pedicle from a crypt of the tonsil at its lower part, close to the anterior pillar, a mass as large as an olive of a dark purplish color, and roughened on its surface like a raspberry. It could be lifted by forceps, and the pedicle was well defined. There was no cervical glandular enlargement. The appearance was suggestive of papilloma and I advised removal by means of the snare because of the apparent great vascularity.

The tonsils on both sides had undergone the normal atrophic process, and did not protrude beyond the plane of the anterior pillar. He had not been a sufferer from chronic throat trouble or recurring tonsillar inflammation.

The parts were cocainized and a cold wire snare loop was easily passed around and pushed well down on the pedicle. The growth seemed soft and yielded easily to the snare constriction. In ten minutes the mass came away. Only a little blood-stained saliva was expectorated. The mass was examined closely after removal and macroscopically looked like an angioma, numerous small blood-vessels being seen just beneath the epithelium. No discomfort followed and he was not seen again for three days. At that visit a small granulating mass seemed to be pouting from the tonsil crypt but nothing was done, as it was believed that it would rapidly cicatrize.

June 20th I next saw the patient; he said the mass in his throat was growing again. On examination I found that it was returning, and was then as large as a raspberry, and resembled it very much in size, color, and conformation, attached to the tonsil by a constricted base somewhat broader than the original pedicle. This second growth was removed with Gradle's cautery snare close to the tonsil, and the depression from which it sprung was gone over thoroughly with a cautery-point, and the parts thoroughly destroyed. I saw him in two days, the throat being quite sore from the burning. Being now suspicious of the condition, I asked my friend Dr. A. O. Pfingst to examine the mass removed. His report is as follows:

"I take the specimen you sent me for a lymphosarcoma. It was soft to the touch, had an uneven surface covered by a smooth membrane which in parts was thick and formed white nodules. The membrane otherwise was thin and transparent, showing the brown tissues beneath it. It was easily torn or punctured by a slight touch of a blunt instrument. On the interior the mass had a brown color. It was soft and brittle and could readily be made to bleed. Particles of the tissue, teased in glycerine, showed large, round cells with granular protoplasm and many red blood-cells, also some fibers of connective tissue.

"The specimen was hardened in formol, sections being made through its long diameter and these stained with hematoxylin and eosin. The growth was covered externally by stratified epithelium, a light line of demarkation being visible between it and the pseudoplasm. The tumor mass was made up almost entirely of large, round cells with nuclei loosely arranged and separated by a granular intercellular substance.

"Bands of connective tissue could be seen distributed throughout the tissue, many of them carrying wide blood-vessels. Extravasated blood could be seen abundantly throughout the tissue in areas of different sizes."

I next saw the patient July 24, 1898. He informed me that since the last operation he had been suffering from his stomach and bowels, and had spent two weeks at a resort the waters of which had been advised for this bowel trouble. During the last two weeks the throat tumor had again begun to show itself, and that a small lump that felt tender on pressure could be felt on the outside. I now informed him of the possibility of the serious nature of the growth, and advised its removal more thoroughly. On examination I found the recurrence was not extensive and the surrounding parts were not inflamed. For the third time the growth was removed, the cautery snare being used and the entire tonsil deep between the pillars cauterized. Four days later I saw him, the cauterized area was clearing of slough and looked well, but the glands along the margin of the sternomastoid were tender and several of them enlarged.

For the further history of the case I am indebted to Dr. James B. Bullitt. September 17, 1898, the patient was seen by Drs. Cartledge and Bullitt with the history that two weeks before he had noticed a lump in the left side below the ribs, about the size of a turkey egg and movable. When seen he was suffering from evidences of acute bowel obstruction; an operation was done. The abdomen was opened in the middle line. The bowel was found obstructed by a nodular mass in the wall of the gut; intestines were much distended above. The mesenteric glands were enlarged, many being as large as a partridge egg. These enlargements in the mesentery were numerous along the vertebral column on the left side; two were removed. The patient died September 26, 1898, nine days after the operation. Microscopical examination of the mesenteric gland removed by Dr. Bullitt, showed it to be a round-celled sarcoma. The condition found at the operation was suspected, but as the symptoms of bowel obstruction were acute, the necessity of relieving this by abdominal section was urgent. The bowel was opened above the seat of obstruction, and water taken by the mouth in a short time passed through the incision, showing the opening in the small intestine to be high up.

Out of approximately 80 cases of which I can find records in the literature at my command, there are only 3 that in their local appearance and history seem to resemble the one just reported. Czerny reports a case of male, thirty-four, tumor pedunculated. Removal, recurrence, metastasis to wall of intestines, peritoneum, and mesenteric glands. Schroeller reports a case in which it assumed a well-defined pedunculated form. Charnley, 1895, reports a case of lymphosarcoma, the size of a small orange, removed three times, with rapid recurrence; original tumor had a very narrow, restricted pedicle. Knight states that the usual form of pedunculated tumor

growing from the tonsil is papillomatous, or fibromatous, usually the former. Schmidt among 32,997 cases of diseases of the upper respiratory passages found only 2 cases of sarcoma in this region.

Most of the cases that I find reported commence with enlargement of the tonsillar gland structure, and with evidences of local inflammatory action and discomfort. Lymphosarcoma, the most malignant variety, is the one most apt to be found originating in the glandular structure of the tonsil.

From the frequent and early appearance of gland enlargements in other parts of the body, especially the cervical region, it has been suggested that possibly the tonsillar condition was only a part of a general sarcomatous process, so-called Hodgkin's disease. When first noted in the tonsil metastatic deposits have been observed in the lungs, liver, intestinal walls, peritoneum, and mesenteric glands. The probability of it being a part of a general sarcomatous condition is borne out by the treatment; extirpation of lymphosarcoma either by external incision or by the mouth has not succeeded in prolonging life, recurrence and death taking place in from four to six months. The only cases in which recurrence has not been noticed were cases of spindle-celled growths.

MEDICAL PROGRESS.

Two Cases of Typhoid without Intestinal Lesions.—LARTIGAU (*N. Y. Med. Jour.*, July 23, 1899) reports two cases of typhoid fever, confirmed by autopsy, in which there were no intestinal lesions. The large and small intestines appeared at autopsy absolutely normal, and the retroperitoneal and mesenteric glands were not swollen. Cultures made from the liver, gall-bladder, and kidney contained bacilli which various tests showed to be the bacillus of typhoid fever. Only a few cases of this character have been reported.

The Bad Effects of Hydrogen Dioxid.—SPENCER (*Therapeutic Gazette*, July, 1899) mentions a number of cases in which the use of hydrogen dioxid has retarded the healing of a wound. In one of these the daily use of this agent for four days enlarged the sinuses in the breast, and was the means of carrying the infection beneath the axillary scar. The patient had been operated upon for carcinoma. In another instance a patient with two stitch abscesses in the abdominal wall suffered from cellulitis of the whole right side of the abdomen following immediately upon the use of dioxid of hydrogen. The bad effects are attributed by Spencer to the forcible dissemination of infectious material by the bubbling of the dioxid. The mechanical action exerted upon the tissues by this agent, during effervescence, is far greater than is supposed by many to be the case. It possesses the power to travel in relaxed tissues, along nerves, in the tendon-sheaths, and in the planes of the muscles. For this reason it is unsafe to use it in infected wounds in certain locations, with or without pus, in abscess cavities either acute or chronic where the walls are supposed to be weak, in closed cavities, and in the tissues surrounding the larynx and trachea, especially in young children.

Sterilization of the Skin.—SENGER (*Archiv für Klin. Chir.*, vol. 59, p. 425) gives the results of a long series of experiments conducted by him in order to discover the best method of sterilizing the skin. He finally adopted the following technic: (1) Mechanical cleansing of the skin with ordinary soap and water just as hot as it can be borne—about 40° to 45° C. (104° to 113° F.). This scrubbing should last at least five minutes. (2) Bathing or rubbing the hands with alcohol (forty to sixty per cent.). (3) Washing the skin for two minutes with a warm two- to five-per-cent. solution of hydrochloric acid. (4) Washing the skin for one minute with a warm one-half-per-cent. solution of permanganate of potash. (5) Washing the skin with sulphurous acid until it is decolorized. The whole process takes about ten minutes. Senger insists upon having the solutions warm, claiming that their antiseptic action is much increased by the heat. By this method he has been able to obtain sterility in almost every instance in which the skin was tested by scraping. He objects to this method of making the test, however, on the ground that it is not as accurate as when small snips of the skin are embedded in the culture material. When tested in this way the skin was found to be sterile in about seventy-five per cent. of the recent experiments. This is far in advance of the results he was able to obtain by any other method.

Importance of an Early Diagnosis in Melancholia.—BURNETT (*Kansas City Med. Record*, July, 1899) insists upon the importance of making a diagnosis in the incipient form of melancholia. He thoroughly believes that in nearly every case which is recognized early the patient may be cured by suitable treatment. Two striking histories in support of this view are given. Since January last the author has been called upon to treat nine cases of melancholia, all presenting apparently equal chances for recovery. Three of them were sent to a public asylum, where they still remain mentally unimproved. The other six were treated in a private institution, and every one has returned home apparently quite well, although the writer recognizes that a repetition of the wear and tear which caused the first mental break-down may bring on a second attack.

Complete Obstruction of the Bowel.—FELL (*Indian Medical Record*, June 14, 1899) reports a case of total obstruction of the bowel lasting thirty-four days. The patient had cancer of the sigmoid flexure, and had entered the hospital for operation, but, learning that a cure of his trouble would probably not be brought about, he refused all operative interference and returned home. For some weeks previous he had taken very little nourishment. After the obstruction became absolute he suffered intense pain for a few days, and had severe vomiting of greenish fluid containing material like coffee-grounds. Not even flatus passed his rectum. After the first week the pain was less, and at times he was free from vomiting. The patient washed his mouth with

water, and occasionally drank a little water, also a little ginger beer. In the second week the dark stains which one is accustomed to see on the cadaver began to show on the distended abdomen. These increased until at the end of a fortnight, the whole abdomen and thorax were mottled like the dependent portions of a corpse. An abscess appeared at the angle of the jaw on the right side, about the size of an orange; it suppurated and broke, and continued to discharge until the time of the patient's death. The urine was clear and free from albumin, and of 1023 specific gravity. The patient never complained of hunger. Up to the time of his death his mind was clear, and he gave as little trouble as possible. The pulse reached 110 by the end of the month, and gradually decreased to 80. About the twenty-fourth day of starvation the lividity began to spread to his arms, and by the thirtieth it was universal except for the face. He died on the thirty-fourth day. At autopsy the bowel above the obstruction was found to measure eighteen inches in circumference. It contained some liquid feces and an enormous quantity of flatus. The stomach and small intestine were empty. From his observations in this remarkable case, Fell concludes that people suddenly deprived of food, whether shut up in a mine or shipwrecked, and who die in from five to eight days, succumb from mental exhaustion rather than from actual starvation. In his opinion, if they would face their position with the fortitude which this man exhibited they might survive a month or more.

Intestinal Disturbances Produced by Otitis Media in Infants.—HARTMANN (*Archives of Otology*, April–June, 1899) has some years insisted that otitis media of infants may be accompanied by disturbances of nutrition, as evidenced by dyspepsia and emaciation. Upon evacuation of the contents of the middle ear by paracentesis the disturbances in digestion disappear, and an increase of weight follows. Elevations of temperature occurring in the course of intestinal disturbances may be referred to a complication with otitis. In all intestinal affections of infants, accompanied by elevation of temperature and reduction in weight, an examination of the ears for the possible presence of otitis should not be neglected. In adults chronic otitis often affects the general organism, and it is safe to assume that the same relation exists in the young infant. From a recent study of numerous cases he further concludes that acute febrile otitis causes a diminution in weight, or arrest of increase in weight; that otitis accompanied by grave septic symptoms probably causes diarrhea; that an acute febrile otitis occurring during intestinal diseases may act upon the general constitution, and by reducing the vitality, aggravate the intestinal affection or retard recovery; and that whether there is a direct relation between atrophy and an otitis, must be reserved for further observations.

The diagnosis of otitis media in young infants can usually be made by direct examination. Although the canal is small and obliquely situated, if the scales of wax which it contains are removed, preferably without syringing, the tympanic membrane can usually be seen through a suitable speculum. Frequently the examination appears to reveal a normal drum membrane. More importance should be attached to the opacity of the membrane, as an exudate may be present without causing it to bulge outward. In doubtful cases an exploratory puncture may be permissible. The treatment of otitis in infants is based upon the same principles as the treatment of otitis in adults. If there is restlessness, pain, fever, and emaciation paracentesis should be performed without delay. After the exudate which runs out of the opening has been wiped away, inflation should be performed and repeated daily. A bit of sterile medicated gauze should be kept in the auditory canal. If the chief symptom is pain, a warm solution composed of one part of carbolic acid to ten parts of glycerin may be poured into the auditory canal and pressed toward the tympanum by repeatedly compressing the tragus with the finger. After a few minutes the solution should be removed with absorbent cotton. Such attempts may be successful in cutting short the inflammation, and so avoiding paracentesis. If there are no urgent symptoms expectant treatment is advisable. If resolution does not take place spontaneously paracentesis should not be delayed. If the secretion is copious and purulent particular care should be taken to maintain a sufficiently large opening in the membrane. The mastoid cells may be involved. If so, their exudate drains through the tympanic cavity, but recovery may still take place without recourse to opening of the mastoid. Inflations of boric acid aid recovery, and as the powder is dissolved by the exudate there is little danger of retention. If the secretion does not diminish in spite of treatment, or if there should be edema or an abscess in the region of the mastoid, operation is absolutely indicated. One frequently finds granulations and detached particles of bone or even large sequestra. The general condition of the little patient must not be neglected. Nasal respiration should be maintained if possible. It is often helpful in nasal catarrh to close the mouth of the screaming infant, thus forcing it to breathe through its nose. If the nasal secretion is very purulent, a one or two-per-cent. saline solution or a weak solution of peroxid of hydrogen may be forced into one nostril while the head of the infant is held downward. Favorable results have also been obtained by the use of a 1 to 1000 nitrate-of-silver spray. The presence of adenoid vegetations in infants is a rare complication.

THERAPEUTIC NOTES.

On the Treatment of Rectal Prolapse.—LUDLOFF (*Archiv für Klin. Chir.*, vol. 59, p. 447) emphasizes the importance of a correct understanding of the structures in the rectal region if one hopes to treat intelligently a rectal prolapse. The rectum is not merely a mucus-lined tube, but a hollow muscular organ which, when it contracts, grows stiff and less movable. This contraction takes place synchronously with abdominal pressure. In normal individuals the whole rectal region is padded with abundant fatty tissue. The nor-

mal peritoneal cul-de-sac has a certain amount of consistence which prevents too great excursions. In patients suffering from prolapse this normal resistence of the different tissues is decreased and the position of the rectum may be altered. Ludloff has studied 111 cases of prolapse. He separated the patients affected into three groups. In the first are adults in the prime of life, nearly all of whom have worked hard. Many of them suffered for years from chronic constipation; others gave a history of typhoid fever or dysentery. They were usually thin, so that the padding of fat was deficient, while the muscular structure of the rectum was weak, and afforded too little resistance to abdominal pressure. Many of them had been in the habit of going regularly in the morning to stool whether they felt the desire for it or not, and of straining violently to accomplish their purpose. In a second group were women either at a period when they were bearing most of their children or at the age of menopause—in other words, at one of those periods in which hernia is most common. The individuals of the third group were children who had suffered from chronic catarrh of the intestine leading to atrophy of the muscles of the rectum and to an excessive abdominal pressure. Heredity plays no small part in the etiology of this trouble. Prolapse of the rectum is a species of hernia in which the peritoneum in front of the rectum presses down further and further, and finally appears, carrying the rectum before it, through the anal opening. It differs from other herniæ simply in the fact that its posterior wall is formed by the rectum itself, the normal supports of the latter having been gradually weakened. Treatment by operation has had a considerable mortality, and has often been followed by recurrence of the trouble because the hernial nature of the affection has not been recognized. For a prolapse which cannot be replaced, whether of the anus or of the rectum, the writer recommends that for two weeks attempts should be made to cure the trouble by massage according to the principles laid down by Thure Brandt. If no improvement takes place in this time anterior colopexy should be performed. If this is without success the rectum should be resected in the manner described by Mikulicz. *Prolapsus coli invaginati* should be treated according to the principles of invagination of the intestines. If the invagination is situated high up, laparotomy and the Barker-Rydygier operation should be performed. If the invagination is situated low down, a resection according to Mikulicz is indicated. Prolapse of the anus is a rolling outward of the mucous membrane, and is best treated by cauterization, or, if the lesion is very extensive, by an incision according to the method of Treves. Rectopexy, twisting of the rectum as recommended by Gersuny, and all attempts to constrict the rectum by means of silver wire are unreliable and dangerous procedures and ought not to be undertaken. For some weeks after operation defecation should take place while the patient is in the recumbent position.

Guaiacol in the Treatment of Malaria.—Whalen (*Chicago Med. Rec.*, July, 1899) has seen great improvement follow the use of guaiacol in those obstinate cases of intermittent fever in which quinin is without effect. The doses which he used varied from 5 to 45 minims. He began with 5 drops in capsules after meals, and gradually increased the dose unless disturbance of digestion followed. Some of the patients suffered from chills at irregular intervals while taking the guaiacol. Whalen attributed this to the fact that an insufficient amount of the drug was taken, and he continued increasing the dose until the stage of complete toleration was reached.

Massage of the Stomach and Large Intestine after Ingestion of Therapeutic Liquids.—Vogt (*Deut. Med. Zeit.*, No. 33, 1899) has ascertained that in the treatment of gastric troubles the effect of the remedies used is greatly increased if massage of the stomach follows ingestion. Light movements should be made from left to right over the whole gastric area in order to bring the liquid in contact with the mucous membrane of every portion of the stomach. To this end the patient should change his position several times during the séance. If the case is one of hypo-acidity, half a pint of normal saline solution or of a one-per-cent. solution of ichthyol should be given. If the latter is chosen it is to be siphoned out by means of a tube after the massage is finished. In cases of hyperacidity a 1 to 200 solution of Carlsbad salts may be employed, or a mixture of 3 drams of subnitrate of bismuth in 6 ounces of water. Bismuth, being very heavy, settles in the greater curvature of the stomach under ordinary circumstances, and therefore has very little effect; hence, massage is especially advantageous after this drug has been administered. If there is too great secretion, solutions of nitrate of silver, 1 to 1000 or 1 to 2000, may be employed. In lesions of the large intestine high injections of oil of the same temperature as that of the body are given and four hours later, the abdomen is massaged. If there is any suspicion of intestinal ulceration massage is contraindicated.

Treatment of Eclampsia.—Parisot (*Rev. internat. de med. et de Chir.*, March 25, 1899) states that the treatment of eclampsia aims to limit the production of toxins in the organism and to facilitate their elimination, when formed, through the skin, through the intestinal mucous membrane, and especially though the kidneys. Milk is the best food as it produces little fermentation, and favors diuresis. Insoluable antiseptics are given, salol, naphthol, benzonaphthol, etc., but according to Deschmaeker the best intestinal antiseptic is saccharin in divided doses, amounting to 1 or 2 grams (15 to 30 grains) a day. Purgatives are more to be relied upon than are intestinal antiseptics. Diuretic drinks, warm or vapor baths to increase the action of the skin, and inhalations of oxygen to increase the rapidity of combustion have their uses. Blood-letting is advisable if an attack is imminent. If there are nervous symptoms 15 to 30 grains of chloral and the yelk of an egg in 3 ounces of milk should be injected into the rectum. If this fails to quiet the patient, chloroform may be administered.

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SATURDAY, SEPTEMBER 2, 1899.

THE MARINE HOSPITAL SERVICE AND THE QUARANTINE OF OUR WESTERN COAST.

THE daily press at the beginning of the week contained the account of a conflict between the local and national quarantine authorities at the most important ports on our Western Coast. It was also announced that the Secretary of the Treasury considering the national authority paramount in the matter, had given instructions that the regulations made by the Marine Hospital Service should be enforced. It is hoped that this will definitely end the difficulty. With the present incidence of bubonic plague at so many seaports in the East, we cannot afford to permit any loopholes, however small, to exist in our Western quarantine without seriously risking an invasion of the scourge.

The present unpleasant incident at a moment of danger like this is a striking warning as to the evils of the present status of our system of quarantine. The Marine Hospital Service has given ample proof of its efficiency in enforcing quarantine regulations even under the most difficult circumstances. Until the establishment of a Department of Public Health with a member of the President's cabinet at its head, confident submission to the Marine Hospital authorities is the best guarantee that a city can have that its people will be properly protected. We are very glad to note that during the late unpleasantness at San Francisco, the city's Board of Trade and commercial organizations having the city's interest at heart recognized this fact. Let us hope that the conflict of quarantine authorities at such a time as this will promote the early establishment of a National Bureau of Health, as there is more and more necessity for uniformity of quarantine regulations of the kind that have proven thoroughly protective in practice.

THE SPREAD OF THE PLAGUE.

THE rumors of the spread of the bubonic plague beyond its first European port of invasion at Oporto have all happily been proven to be without foundation. Especially does it seem sure that no cases have occurred at Palermo, or Naples, or any other port of Southern Italy. Even the suspected cases at Lisbon have turned out to be other diseases falsely diagnosticated as plague during the first hours of excitement and alarm. All this, however, does not by any means give the assurance that Europe is out of danger. As the disease has once slipped in unawares, so may it again, and the present calm should lead to the relaxation of not a single precaution against it.

The plague has been particularly characterized during the present epidemic by just such fitfulness, with intervals of apparent cessation that disarm suspicion. We have heard time and again during this past five years that it was under control and no further spread of the disease need be feared, but it was always only to learn within a few months of its recurrence or invasion of adjacent territory.

We called attention some time ago to the fact that sanitary experts in India doubted if the plague could ever be eradicated from certain of the cities of the peninsula unless extreme measures were taken. The *Indian Medical Record* wrote editorially of the cities of Bombay and Calcutta as "doomed." We have reason to know from those who are in constant correspondence with pathologists in India that the latter consider the invasion of Europe by the plague as practically inevitable. All precautions in the past have not sufficed to prevent the spread of the disease in

India. New foci of infection have been lighted up, notwithstanding the high hopes and confident promises of sanitarians.

It may be noted in our Echoes and News column how insidious has been the progress of the disease. Plague has very probably been epidemic in a mild form in Alexandria since January. The disease has existed at Oporto since the beginning of July, although it was not until the middle of August that the official announcement of its presence was made. This circumstance possibly adds much gravity to the significance of the present situation.

The results of the latest pathological research in the disease are not calculated to allay uneasiness as to the possibility of its spread throughout the civilized world. It has been found that certain animals hitherto thought to be immune are liable to infection. The monkey, for instance, has been recently found dead from plague, and it is suspected that certain of the domestic animals are liable to it, especially in the virulent type of the disease has now developed as a consequence of its long continuance under conditions favorable to its growth.

There is every reason then to sustain the vigilance of quarantine authorities, and let the urgent danger be thoroughly and generally understood. We do not think that we exaggerate the significance of the present state of affairs when we speak thus plainly. An invasion of the Western World by the disease would be an incalculable evil. Every possible effort should be exerted to keep it off. While there is no reason for a senseless scare that would disturb commercial relations, there is every reason to commend the minutest precautions, lest commerce shall become the involuntary but effective carrier of the germs of an awful contagion.

THE PRESENT STATUS OF THE WIDAL REACTION.

The Widal reaction has come to stay. There can be no doubt of this now that the results of the army of earnest workers in this field have been given to the profession. In the early history of the reaction the medical press not infrequently contained reports of isolated cases in which the serum reaction was wanting, but in which clinical symptoms or even autopsy findings inclined the observer to the diagnosis of typhoid. Perhaps even more numerous were the evidences in favor of other diseases in cases in which the reaction was present. Influenza, malaria, pernicious anemia, acute miliary tuberculosis all contributed instances of undoubted reactions. No attention was paid to the fact that at least three of the above affections are not uncommonly mistaken clinically for typhoid fever, or that without absolute bacteriological findings or an autopsy (or in malaria the presence of the plasmodium of Laveran in the blood) they were not justified in their conclusions that they were not dealing with typhoid.

Then came the announcement that the blood of patients who had once been afflicted with typhoid may retain for years its agglutinative reaction. While this fact of itself was of some value, and necessitated a careful review of all those non-typhoid cases giving the reaction, of far more importance was it as an evidence of immunity to subsequent reinfection, *viz.:* the power attested by this reaction of the blood-serum of a patient afflicted with typhoid fever to destroy the typhoid bacilli entering its channels. In some patients this agglutinative power is exhausted before the patient has well entered upon his convalescence; a relapse occurs which may prove more virulent than the original attack. In others this power prevails over a period which can only be measured by years, three, five, or even longer.

To quote the statistics of Cabot: out of 5798 cases of typhoid, gathered from many sources both at home and abroad, the test performed in a variety of ways, with cultures obtained from many sources and of varied ages, positive reactions occurred in over 97 per cent., truly a remarkable result. But the scientific observer cannot rest satisfied with assurances of a positive character; negative evidence that the reaction does not occur in other diseases must be forthcoming. Cabot was enabled to gather from the same authorities almost as many instances of other diseases in which the application of the reaction gave negative results in fully 95 per cent. Of the remaining 5 per cent. we may rest assured that some of the subjects had had typhoid previously, and this fact of itself would help to better the record. By greater simplicity and unification of technic and by subjecting every case not typhoid but giving the reaction to careful investigation to determine if the disease has formerly existed we may confidently expect an even greater percentage of positive reactions in typhoid

and of negative reactions in our control experiments.

There is one point in which our statistics are somewhat lacking, and that is the percentage of typhoid (the existence of the disease being absolutely proven by post-mortem findings) that exhibits a positive reaction, provided the serum is taken from the body some time before the onset of the death agony. In the experience of the writer, and other observers have narrated the same, the serum when taken just before death does not always give a positive reaction though previous tests may have proved its presence unmistakably and the autopsy showed the characteristic lesions of typhoid.

Following closely on the heels of Cabot come the statistics of Anders and McFarland, published in the *Philadelphia Medical Journal* of April 8, and 15, 1899. These observers, in testing the blood of 230 typhoid patients, relics of the Spanish-American War, found the reaction in 219, or in more than 95.5 per cent. Stengel and Kneass in the "Year-Book of Medicine" (1898) collected reports of more than 2000 cases of typhoid in which the reaction was found in 95.5 per cent., while in almost 1500 non-typhoid cases the reaction was present in only about 1½ per cent. We have, then, a test for typhoid, which, when performed with proper precautions, if not absolutely diagnostic, is certainly one of the most reliable signs of the disease. It is not frequently present in other diseases, if at all, as is the diazo reaction of Ehrlich, nor is it so difficult though far more reliable than the leucocyte count. It has certain limitations, it is true. As a rule, while not appearing during the first few days of the disease, it is manifest before the rose-colored abdominal eruption appears. Occasionally it does not appear before the fourth or fifth week, from which it may be inferred that patients dying of the dangerous complications of the second or third week may never have given a positive reaction. A previous attack of typhoid within a period of one to three years interferes absolutely with the value of the reaction. It is frequently not present if the blood is withdrawn while the patient is at the point of death.

ECHOES AND NEWS.

Death Due to Hiccough. — A patient died of hiccough in the General Hospital at Matteawan, N. Y. The attack began on August 20th, and despite treatment he was not relieved and died of exhaustion on August 25th.

Hurricane Death-List.—It is estimated that the bodies of 2500 victims of the recent hurricane at Ponce, in Puerto Rico, have been buried, that 1000 other persons were injured during the storm, and that 2000 people are still missing.

Death at 116 Years.—William Gaffney, who died at St. Bazile in Canada on August 24th, was 116 years old. He was born in Ireland and came to Canada eighty-five years ago. He was able to walk about, and had all his faculties up to a few hours before his death.

Typhoid Fever in Boston.—There is in Boston an increase of about thirty-six per cent. in cases of typhoid fever during August over the corresponding time in 1898. It is believed that most of the recent cases which have developed have come from some sort of infection through the milk-supply.

Smallpox in Texas.—An epidemic of smallpox has broken out in Texas as a result, it is believed, of the bad sanitary condition following the recent disastrous floods in the Brazos Valley. Hundreds of negroes in Bastrop, Brazos, Robertson, and other counties are afflicted with the disease. The State Health Department has taken charge of the situation.

The Malarial Mosquito Found (?).—Major Ross, who was sent to Sierra Leone by the Liverpool School of Tropical Diseases to try to discover the malarial mosquito, has telegraphed to Professor Jones, of the school, that the mosquito has been found. It is believed that the English Government will send medical experts to assist in the researches.

Hospital Corps Men Needed.—Much difficulty is being experienced by the War Department in procuring men for the hospital corps and signal service. The increase of the Philippine army to 63,000 men will necessitate a corresponding increase in these services. Fully 2500 hospital corps men will be needed, the calculation being based on an estimate of six per cent. of the combatants being incapacitated for active duty.

Temperature at Manila.—Lieutenant W. C. Davis, now at Manila, wrote on June 29th to a friend in Baltimore to the effect that through May and June, the hottest months in the year in the Philippines, the climate was quite comfortable. On the hottest day it was 88° in the shade. At night it becomes cool and blankets are necessary. "It is," he stated, "nothing like as hot at Manila as it is in the summer in the Eastern part of the United States."

Unpopular Medical Men.—In New Zealand the medical profession is disliked among the working classes. They never apply to a doctor until all other means have failed, refusing when they do call upon him to give their symptoms, and expecting the physician to make a diagnosis by merely looking at them. Should he be indiscreet

enough to say, "Well, what's the matter?" the patient would grin most disrespectfully and tell the doctor it is his business to find out.

Professor Grassi's Malarial Studies and the Italian Health Authorities.—It is considered that so much excellent work on malaria has been done already by Professor Grassi, Lecturer on Comparative Anatomy at the University of Rome, and there is promise of so much benefit to public health in the continuance of his studies, that the Italian Superior Council of Health has granted a fund to defray the expenses of his further investigations into the etiology of malaria and methods of preventing the spread of the disease.

Fighting Pests with Biologic Aids.—There is a plague of locusts afflicting India in addition to that unfortunate country's other ills, and the inhabitants are trying a new method in fighting it. It has been found that a certain fungus is very effective in disposing of the insect pests. This fungus is now being distributed to the farmers of locust-infested districts, by the British Army Medical Service in India. It is hoped that its presence will succeed in inhibiting the almost annual invasion by the destructive insects.

Prizes for Life-Saving Devices at Sea.—A series of prizes for this very commendable object are to be given by members of the Pollok family. Certain members of the family were lost last year by the sinking of the Bourgogne and the present offer is dictated by that circumstance. The prizes are to be awarded at the Paris Exposition next year and the competitors of every nationality are expected to take part. Mr. William Ker of Washington, D. C., has been selected as secretary of the committe in charge of the competition in America.

Artificial Culture-Medium for Lepra Bacilli.—Dr. Carrasquilla of Bogota, United States of Columbia, well known for the invention of a lepra serum, with which he has been experimenting, announces that he has been able to cultivate lepra bacilli outside the human body on artificial media. This has not been successfully done up to this. The media Dr. Carrasquilla has had his success with were sloped human blood-serum and beef bouillon prepared according to the formula in general use in bacteriological laboratories in France. The formula may be found in French text-books of bacteriology, especially Thoinot's.

Quinin in the United States Army.—More than 125 million grains of quinin have been taken by United States soldiers during the past year. It is said that some of the military patients in the army hospitals in Cuba and Puerto Rico took as much as 300 grains a week during several weeks. Hardly any of those who were in service in the West India islands failed to take some quinin during their stay. A military correspondent writing from Puerto Rico recently said that practically none of the soldiers had been entirely exempt from malarial disturbances on that island and that while the malaria was usually not severe it was very obstinate.

Smallpox in New York State.—The State Board of Health is sending circular letters to the Health Boards of the different cities, calling attention to the prevalence of a mild form of smallpox in the central and western parts of the State. It is stated that the spread of the disease at this time, as was the case a year ago, may be attributed in a large degree to the fact that many cases of smallpox were mistakenly diagnosticated chicken-pox, and it is advised that the various city boards adopt and enforce rules requiring that all cases of supposed chicken-pox be reported promptly to them, in order that they may be kept under observation, and quarantined, if necessary, until all doubt is at rest.

The Continental Anglo-American Medical Society.—This association, which is composed of English-speaking medical men (British and American) who practise on the Continent, held a meeting at Portsmouth during the recent meeting of the British Medical Association. Professor William Osler of Johns Hopkins, who is one of the vice-presidents of the Society, occupied the chair. A number of the most prominent members of the medical profession in England were present. Speakers insisted on the evident advantage to be derived from English practitioners being acquainted with the physicians to whom they might have occasion to send patients visiting the Continent. Professor William Osler dilated on the advantage of being an Anglo-American-Canadian when events were tending to bring all branches of the English-speaking world in closer touch with one another.

Insanity among Indians.—An expression of opinion in this matter from one who ought to know of what he speaks, and that is of a great significance to medical men, we take from a recent number of the *Scientific American:* "United States Commissioner William A. Jones makes the interesting statement that 'a full-blooded Indian lunatic never lived.' After inspecting the site recently purchased by the Government for an Indian Insane Asylum in the Indian Territory, he says, 'The occupants of the hospital which will soon be opened will all be mixed breeds. Probably there never was a case of insanity in any tribe until the malady was introduced by mixing with the whites.'" It would be interesting to know what reasons experts in mental diseases give for this exemption of the Indian from mental trouble. Now that it seems definitely sure that insanity is largely on the increase in civilized communities the theories of explanation would be especially of interest.

The Utilization of Putrid Meat.—In France nothing is allowed to go to waste. Meat unfit for food and the bodies of animals that have died of disease are extensively used for the manufacture of superphosphates. The meat is placed in a vat containing sulphuric acid, which separates the resulting nitrogenous product from the fat. The dead animals are thrown whole into covered lead-lined vats full of sulphuric acid of 66° Beaumé. If these animals have died of anthrax or glanders they are cut up before being thrown in. In the course of forty-eight hours the fat alone remains, and the animalized

sulphuric acid, rich in nitrogenous substances, is drawn off and sent through an underground conduit to the superphosphate factory. Thus, instead of the unsanitary method of burying such putrid substances directly in the ground, they are effectually disposed of by the complete destruction of all injurious germs; and there results a product available in the manufacture of a valuable fertilizer.

Mine Accidents and Fire-Damp.—Professor Haldane, Lecturer on Physiology at Cambridge University, England, has had the opportunity recently to investigate the causes of death among the miners in an explosion in an English mine. Out of fifty-eight victims only two were injured enough to cause death; the remaining fifty-six were asphyxiated by the products of combustion present in the air after the explosion, and by the absence of oxygen. The effective cause of death in the fatal cases was principally the presence of large quantities of carbon dioxid in the air. It is the presence of this gas, too, that makes the work of the rescuers so difficult and dangerous. The gas is absolutely odorless and does not betray its presence until men are overcome by it, when often it is extremely difficult for the others of the party to carry them out of danger. Professor Haldane has found that mice are extremely susceptible to carbon dioxid and succumb when such proportions of the gas are present in the air as men endure very well. He suggests, then, that rescuing parties should carry mice with them (they are, as a rule, not difficult to procure around mines) to furnish an index of the presence of carbon dioxid in the atmosphere just short of the danger-limit. They would serve as a warning and changes in the direction of the air-current of the mine might be made after this indication, which would eliminate some of the danger.

The Nobel Prizes.—It is well known that the Swedish inventor of dynamite, the late Alfred Nobel, left a very large sum of money to be distributed in prizes for scientific and other advances. His executors now announce that the estate amounts to $7,500,000, which has been invested, and $40,000 will be available for each of five annual prizes to be given for discoveries and inventions in physics, chemistry and medicine, and for the most deserving work in literature respectively. The fifth prize is to be awarded to the person who has done the best work for the fraternization of nations, for diminishing armies and the propagation of peace during the year. It is well known that Nobel himself, though the inventor of dynamite and a great manufacturer of high-power and smokeless explosives was an ardent advocate of universal peace and the establishment of international arbitration. He even persuaded himself that he had in his invention of the more powerful explosives advanced the coming of the millennium of international fraternity by making war more terrible and more absurd. The first distribution of these prizes will take place with the beginning of the new century in December, 1901, as directed by the donor's will. The distribution day annually is to be December 10th, the anniversary of Alfred Nobel's death. The prizes are to be decided by certain institutes founded for the purpose in Sweden. Recommendation of contestants for the prizes is to be made by various scientific and literary societies and academies and universities designated by these institutes. Competition is, of course, open to the world and besides the $40,000, each prize-winner will receive a diploma and a gold medal bearing a relief representation of the prize founder. Personal application will be entirely useless and application can only come through one of the designated scientific or literary institutions. As further details are made known they will be noted in these colums.

Obituaries.—Dr. John J. Linson died on Sunday, August 27, at Tarrytown, N. Y. He was born in New York City in 1827, and was a graduate of the College of Physicians and Surgeons of New York. After having served at the front with distinction during the early part of the Civil War as the surgeon of the Sixth New York Heavy Artillery, he became surgeon of the Provost Marshal's office in the New York district, and invented the method of marking volunteers with nitrate of silver, which proved so effective in preventing the wholesale bounty jumping so common at one period of the war. He was president of the Westchester Medical Society for three years.—Dr. Max Thorner, a brilliant pupil of Dr. Virchow, died at Cincinnati, Ohio, on August 27th. He was only thirty-nine years old. He was a laryngologist of note, and held the chair in that branch of medicine at the Cincinnati College of Medicine and Surgery. At the last meeting of the American Laryngological Association he was unanimously elected a Fellow, a rare honor, as the association's membership is limited to seventy-five. He was also a Fellow of the American Rhinological and Otological Society.—Dr. Josef Mayer, sometime Surgeon-General of the Polish Army, and Professor, Dean, and Rector of the Jagellonian University, Cracow, died recently, aged ninety-one. He was a member of the Polish Academy of Medicine, of which he was president for many years, and he was a member of a number of other societies, Polish and foreign, a member of the Austrian House of Lords, and for a long time a Deputy for his district, and a Town Councillor for Cracow. In his person was embodied nearly a century of the intellectual life of Poland. Born at Cracow in 1808, he studied in the University of that city, and took his doctor's degree in 1831. He took part in the Polish rising of that year, serving in the army of his country as a medical officer. He was the author of nearly eighty books and papers on the physiology of the nervous system, physiology of the senses, the length of man's life, the influence of meteorological conditions on mortality, etc. He had been a professor at the University of Cracow for more than sixty-six years, having been appointed to his chair while Cracow was an independent duchy, and retaining it after the city and university passed under control of the Austrian Government.

The Plague Situation —Two items of very great interest as regards the present plague situation we copy from the *British Medical Journal* for August 19, 1899. They serve to show very forcibly the insidious character of the

disease: "The appearance of the plague in Portugal is ascribed to packages from Bombay landed in Oporto early in July, 1899. The latest advices mention 36 cases of plague and 6 deaths; but Reuter's Lisbon correspondent states that on August 11th 'several cases of plague have been reported in the central quarter of Oporto. It is said that since the first outbreak of the epidemic there have been 27 cases and 11 deaths.' All ports in the Azores are closed to Portuguese vessels, and the Brazilian Government has imposed quarantine on vessels which left Portuguese waters after July 1st. The Spanish authorities are in the greatest perturbation, however, and they have good reason to be alarmed. Many Spanish families are at watering-places in Portugal, and the authorities are afraid that their return may carry plague to Spain. The sanitary authorities in Spain have decided to impose quarantine on arrivals from all Portuguese ports, to establish five lazarettos on the frontier, and to interrupt all communications both for goods and passengers between Spain and Portugal until the lazarettos are prepared. There may be some consolation in the fact that the cases are not numerous nor is the disease spreading. This is confirmed by the fact that the death-rate of Oporto is not abnormal. As usual, notwithstanding the official announcement, many residents in Oporto and throughout Portugal are sceptical as to the real existence of plague, and are prepared to deny its presence. This is the usual condition of things, as in every country and town where plague has appeared we find persons ready to suppress the truth, and deny the possibility of its presence." From Alexandria recent news is of similar and epidemilogical interest: "A telegram from Alexandria, dated August 13th, reports that after a week's interval 1 fatal case of plague was reported on August 10th, and that 3 new cases and 2 deaths from plague have occurred during the week ending August 13th. A report dated July 25, 1899, has been addressed to the Constantinople Sanitary Administration by the Ottoman sanitary delegate (Dr. Duca) in Egypt on the supposed origin of the present outbreak of plague in Alexandria. Dr. Duca states that Dr. Doxara, in January, 1899, saw a case of buboes with fever in Alexandria. During the ensuing months several such cases occurred, but he did not draw the attention of the government to the fact. When the plague, however, was officially declared in May, 1899, Dr. Doxara reported the cases of bubo with fever he had observed during the previous months. The cases were sporadic, of a mild type, and chronic in their nature. Dr. Doxara states that owing to the slowness of the spread it might appear that the mild type of cases he mentions were not plague nor in any way connected with it, but he draws attention to the fact that in all the epidemics of plague occurring between 1835 and 1843 in Alexandria, similar mild cases of plague always preceded the outbreaks of true plague. Dr. Doxara remarks that there has been direct communication between Bombay by steamers of the Italian 'Rubattino' line ever since November, 1898. Many passengers were landed from these boats—including the passengers of the s.s. 'Mehalla,' on board which a stoker developed plague—and went to various parts of the country. In addition, thousands of sacks of grain from Bombay were landed on the wharves at Alexandria during the early part of this year. Dr. Doxara is of the opinion that the present outbreak of plague has not occurred suddenly, but that the disease has been present in a mild form (pestis minor) for several months before it was diagnosed or officially declared to exist in Egypt. As a guide to the period of the year at which plague is apt to prevail most seriously in Alexandria, the following extracts from observations extending over ten years, 1834-1843, is interesting: January, 329; February 1112; March, 4952; April, 2936; May, 1799; June, 547; July, 216; August, 100; September, 15; October, 18; November, 63; December, 195. It would appear that when the plague prevails at Alexandria it is wont to reach its maximum of virulence during the spring and to subside almost to vanishing point in the autumn." At Mauritius the plague continues to rage with unabated virulence. The British Colonial Office has received information that during the week ending August 19th, 40 new cases of plague and 32 deaths occurred. At Hong Kong the number of new cases of plague which occurred during the week, August 14th to 20th, was 20. During the same period there were 20 deaths from the disease. A telegram to Shanghai from the British Consul at the treaty port of New Chang, in North China, reports that the bubonic plague has appeared there. It is feared that the bubonic plague is epidemic on the Gold Coast of Africa, carried there from the neighboring French colonies, where it is known to exist. A French priest is reported to have said that 13 of the fathers and sisters, a d upward of 40 European merchants and officials, had succumbed within the last three months. The latest reports from Europe show that plague exists only in Portugal, and is not spreading there to any extent. A case is said to have occurred in these last few days in the prison at Oporto, and this may prove of serious import.

MEDICAL MATTERS IN NEW YORK.

NEW YORK'S ACCOMPLISHED POLICEMAN—AN EPIDEMIC OF DEATH—THIEF DIES IN JAIL—SCIENTISTS TO MEET IN NEW YORK — DEATH OF DR. M'LEOD — CLINICAL INSTRUCTION FOR FEMALE MEDICAL STUDENTS—OFFICIAL HOSPITAL INSPECTIONS—REGULATED CHARITY.

GEORGE H. QUACKENBOS, a patrolman on the New York police force, reads Greek, understands the sign language, is a good telegraph operator, has filled the chair of rhetoric in Seton Hall, New Jersey, and lastly holds the degree of Doctor of Medicine of the New York University Medical College. He is the son of Professor George W. Quackenbos, Professor of Greek and Latin at De La Salle Institute. When Governor Roosevelt was president of the Police Board he appealed to educated men to become policemen. Quackenbos, reading of this in the papers, made application and joined the force. Some time ago a contributor to one of our medical journals presented a paper in which he demonstrated that but

seventeen per cent. of medical graduates continue in the profession of medicine. All the rest go after graduation into other pursuits. Quackenbos is probably the only man who has forsaken medicine to wear the uniform of "the finest."

Mrs. Bathje, a resident of Brooklyn, seventy-two years old, died on August 26th from a fractured skull due to a fall from the window of her daughter's apartments. The daughter, Mrs. Reynolds, has lost by death within the last six months her mother, father, husband, and three children.

Some time ago the New York Health Board received a number of complaints of thefts committed by a man who represented himself to be "Dr. Wood, a Health-Board inspector." The man gained access to many houses, and the police estimate the aggregate amount of his thefts at about $20,000. He recently left New York, and transferred his operations to Newark, N. J. Here he was arrested on August 17th, and extradition papers were prepared for bringing him here for trial. However, he died in jail of Bright's disease on August 22d.

The next meeting of the American Association for the Advance of Science will be held at New York, June 25–30, 1900. Its officers are: President and treasurer, Robert Simpson Woodward, Dean of the School of Applied Science of Columbia University, and Professor of Mechanics in the same university; permanent secretary, L. O. Howard of Washington, Government Entomologist; general secretary, Charles Baskenville of Chapel Hill, N. C.; secretary of the council, William Hallock of New York.

Dr. Samuel B. McLeod died on August 22d at his home at 339 West Twenty-third street. He was injured several weeks ago in alighting from a Madison avenue trolley-car, but it was thought that he had recovered from the accident. It aggravated an old heart lesion, however, to which the doctor succumbed. He was a cousin of the late Dr. C. R. Agnew. His father was the Rev. J. N. McLeod, for forty-four years pastor of the Reformed Presbyterian Church on West Twelfth street. Dr. McLeod graduated from the New York College of Physicians and Surgeons, was for two years vice-president, and afterward for five years president of the New York County Medical Association. He was also vice-president and president of the New York Medico-Legal Society, a permanent member of the American Medical Association, consulting physician to the Marion Street Maternity Hospital, and consulting physician to the Northern Dispensary.

The medical instruction to be given in future at the New York Infirmary for Women and Children will consist of special courses for women graduates and undergraduates, under the charge of former professors and instructors of the Medical College of the Infirmary which was closed last June. The fine opportunities for study afforded by the hospital wards and by the dispensary and out-practice services, heretofore absorbed by the students of the college, are now open to all women students of medicine.

Comptroller Coler and President John W. Keller of the Department of Charities visited Bellevue Hospital and the institutions on Randall's and Blackwell's Islands on August 22d. Both these gentlemen are anxious to put a stop to the granting of city money to private institutions, and when the budget of 1900 is made up it is intended to make a strong fight to have the grants of public money reduced. It is proposed to stop the sending of rich persons to private hospitals at public expense when there is room for them in the institutions controlled by the Department of Charities. This department has fully equipped modern wards and pavilions for the treatment of every class of disease. These wards are at times practically empty but the expense of maintenance goes on whether there is one patient or twenty in them, being reduced only by the cost of food for patients. At the same time the municipality is paying large sums for the treatment of patients in private hospitals. Mr. Coler and Mr. Keller believe that the reform in the dispensation of charity by the city should begin with this abuse and it will be one of the things for which they will contend in the Board of Estimate.

In the communication sent by the New York State Board of Charities to Comptroller Coler in answer to his request for advice—which was noticed in this column last week—it was further observed that when a group of persons organize a charitable institution, the natural and usually sufficient check upon its undue development is the necessity resting upon them of giving or securing from others the necessary funds for its maintenance. This necessity is the natural check upon the tendency of all institutions to grow indefinitely, to admit children who ought not to be received and to retain children who would be better off if placed in families or returned to their parents. The securing of public funds removes this natural and wholesome safeguard against undue growth. At present several of the large institutions whose payments have met not only all the current expenses of every nature but have left an excess to be applied to the reduction of indebtedness, or the erection of larger buildings are wholly supported by the city. In summing up it was stated that in the opinion of the committee who formulated the answer to the Comptroller the plan of granting public subsidies to private institutions has inherent and grave dangers which it is impossible to obviate, and that no plan can be devised which will insure wholly satisfactory results. Appropriations of public money to private institutions inevitably tend to diminish and discourage private charity. The present system confuses the duties of the public authorities and of private citizens and private organizations, and prevents any clear division of the field as between public and private effort. It encourages the growth of privately managed but publicly supported charities to an unlimited and harmful extent. Though often apparently economical in the beginning it is always in the long run enormously expensive. It indirectly prevents a proper equipment and maintenance of the public charitable institutions. And lastly, its permanent disadvantages far out weigh any immediate temporary benefit that may be derived when the system is first established.

CORRESPONDENCE.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

MALIGNANT NON-SEPTIC RHEUMATIC ENDOCARDITIS—FREEZING-POINT OF THE BLOOD AS A MEASURE OF THE COMPETENCY OF THE KIDNEYS—SIGNIFICANCE OF THE STRUCTURE OF THE RENAL ARTERIAL SYSTEM.

AT the Berlin Medical Society on June 21, 1899, Litten read a paper on the malignant non-septic form of rheumatic endocarditis. The septic form of endocarditis may be produced by pneumococci, gonococci, typhoid bacilli, tubercle bacilli, diphtheria and influenza bacilli, colon bacilli, streptococci, staphylococci, etc. The ordinary rheumatic endocarditis is usually spoken of as the verrucose form. In the latter there is a tendency for fibrin masses to form upon a valve. These masses undergo a benign metamorphosis. They do not entirely disappear, but shrivel up so that they are relatively harmless. This form of endocarditis as all others is produced by micro-organisms which are seldom found because the opportunity to make a post-mortem examination in a recent case rarely comes to pass. Simple rheumatic endocarditis affects usually the left side of the heart in contradistinction to the fetal and malignant forms. The explanation of this fact is found in the necessity for oxygen which the germs exhibit. As the left side of the heart is supplied with freshly oxygenated blood germs can live and develop in this side of the heart far better than in the right side. In the fetus on account of the absence of air in the lungs and the presence of the foramen ovale the blood in the two sides of the heart contains practically the same amount of oxygen. As the right side of the heart does more work in the fetus, it may be supposed that it is more liable to injury, and hence offers a more favorable seat for the development of the micro-organisms. Simple rheumatic endocarditis is not a complication of acute rheumatism but is a localization of the morbid process. This form of endocarditis never gives rise to abscesses or malignant metastases. If infarcts are caused they are not infectious. It exhibits a great tendency to recurrence. It is often complicated by fibrinous endocarditis. It has no characteristic type of fever as have the malignant forms, for the reason that it runs no specific course, and new lesions are frequently superimposed upon old. In the swollen and painful joints is found a clear or slightly turbid but never purulent fluid. Another diagnostic point is the prompt effect of the salicylates upon the general condition and the swelling about the joints. Endocarditis occurs, according to different observers, in from sixty to seventy-five per cent. of the cases of acute rheumatism, but apparently every heart which gives a systolic murmur is counted by them as rheumatic.

The term "ulcerative" endocarditis is less suitable than the term "septic." Oftentimes the patient dies before the papillary growths upon the endocardium have advanced sufficiently to undergo necrosis. This form of disease is due, as already stated, to the action of various cocci, bacilli, etc. It occurs in the right side of the heart as well as in the left. The infarcts produced are rarely benign, and they usually lead to metastatic abscesses. Microbes which cause septic endocarditis usually come from broken-down thrombi in the veins; hence the endocarditis is merely a symptom of the pre-existing disease. If pericarditis co-exists, it is almost always suppurative, not fibrinous. This form of endocarditis is often complicated with hemorrhagic nephritis. Etiologically, its occurrence is most often due to diphtheritic inflammation of the site of the placenta after abortion or normal birth; to diphtheritic inflammation of the intestine, of the soft palate, of the vulva, or of the uterus: to severe affections of the adnexa with thrombo-phlebitis; to phlegmonous parametritis; to suppurative inflammations of the neck after scarlet fever, or typhoid fever. Clinically speaking, septic endocarditis runs an acute course, usually terminating in death. The temperature is high; there are irregular chills, either daily or every second day, or at no stated intervals. Hemorrhages in the skin or retina occur in eighty per cent. of the cases. Various kinds of suppurative processes appear in the skin and eye, such as severe pemphigus, multiple abscesses, deep necrosis of the skin with hemorrhages, panophthalmitis. The spleen is invariably much enlarged, although sometimes it cannot be felt during life. It may contain abscesses and be surrounded by fibrinous inflammation so that a distinct râle may be heard and felt on respiration. This form of endocarditis causes changes in the pulse, in the activity of the heart, and in the respiration of such striking character that they are easily differentiated from the symptoms of the rheumatic form in which the variations take place slowly. The disease leads rapidly to death. In the blood immediately after a chill are found the same micro-organisms as are found in the fluid aspirated during life from the joints, and post-mortem in the cardiac lesions. The important point in etiology is the presence of necrotic thrombi in the veins.

The third form of endocarditis, to which LITTEN has given the name of malignant rheumatic endocarditis, usually terminates in death but is not septic. The severe character of the infection appears early in the disease, and to a certain extent simulates in this respect that of the septic form. The objective signs in the heart are like those of the simple rheumatic form, only more extensive. There may be a feeling of oppression and dyspnea. The patient soon becomes anemic, cyanotic, or unconscious. The fever may be slight or it may be very high, of an irregular character, and interrupted by chills. There is swelling of the spleen. There is a positive diazo-reaction of the urine. Often cutaneous, mucous, and retinal hemorrhages occur. Hemorrhagic nephritis is a common symptom. The metastases which are formed are invariably benign, giving rise to simple infarcts and anemic necrosis. The disease lasts for many weeks, and terminates in death after severe cerebral symptoms.

The writer stated that he had treated twenty patients, nineteen of whom had died, and the remaining one was still very ill and likely to die. This form of endocarditis develops in the course of an acute rheumatism or an

acute rheumatism or an acute rheumatism complicated with chorea. One diagnostic point is the prompt effect of the administration of salicylates upon the general affection. If the cardiac lesions, instead of remaining stationary or diminishing, show a tendency to increase and grow worse, the case will probably be found to be one of malignant and not one of benign endocarditis. Fluid aspirated from an affected joint is never purulent. After the administration of salicylates and improvement of the condition of the joints, the patient may have a sudden chill or cutaneous hemorrhages may occur causing the physician to examine the heart. In this form of endocarditis the right side of the heart may be affected as well as the left. The fever presents no regular type. There are no abscesses in the skin or in the eye. Retinal and cutaneous hemorrhages are unfavorable symptoms. There may be an enormous increase in the pulse-rate, possibly to 160 per minute; cardiac irregularity, palpitation, and marked dyspnea. Other patients do not have these extreme symptoms, or only after exertion. The swelling of the spleen can usually not be made out during life. After several weeks the patient becomes very anemic and exhausted; symptoms of oppression and dyspnea and cyanosis set in or cerebral symptoms develop and death follows. At post-mortem examination no suppurative processes nor thrombophlebitis will be found. Such metastases as exist will be of a benign character. Fibrinous pericarditis is frequently an accompaniment. There are usually numerous hemorrhages into the serous membranes. In two cases Litten's assistant was able to demonstrate the presence of very small cocci in the blood. The writer emphasized the importance of recognizing this malignant form of endocarditis at an early stage.

At the session of June 21st, RICHTER and ROTH presented the results of their experiments in reference to nephritic incompetency. The desirability of recognizing whether the kidneys are satisfactorily performing their duties needs no argument. It was formerly supposed that if they were working properly a certain amount of urea, chlorids, etc., would be excreted daily; that, therefore, an examination of the urine would show whether renal incompetency was present or not. This is not always the case for the reason that it is not the absolute work of the kidneys which is important but the relative work—that is, the amount of work performed relative to the amount demanded. No matter how much work done there is renal incompetency if the kidneys are not able to prevent the retention in the body of products of metamorphosis. Hence the desirability of being able to determine this by examination of the blood. Such an examination to be of practical importance must be simple and easily carried out. Koranyi has recommended such a method. It consists in testing the molecular concentration of the blood-serum by ascertaining its freezing-point. Blood-serum possesses normally a constant molecular concentration. During the process of metamorphosis in the body large complex molecules of albumen are broken up into numerous small molecules. Molecular concentration of the blood is thereby increased. The kidneys constantly counteract this tendency by excreting from the blood a concentrated fluid, thereby preventing the accumulation in the blood of an excess of the products of metamorphosis; hence, the constant normal freezing-point of the blood is a sign of the sufficient action of the kidneys. If the kidneys fail in their activity, there is an abnormal molecular concentration of the blood which is plainly shown by an abnormal sinking of the freezing-point. The freezing-point of normal blood is not more than 0.56° less than distilled water. If it is lower than this it is an indication that there is renal incompetency. More recently it has been found that insufficient oxygenation of the blood will also reduce its freezing-point. But this error can be eliminated by shaking the blood with oxygen in a test-tube. If the low freezing-point is due to lack of oxygen, it will rise; if it is due to renal insufficiency, it will not be affected by the oxygen.

At the session of June 28th, ZONDEK showed macerated preparations of the arterial system of fifteen kidneys and called attention to certain facts in connection with the vascular supply of the kidney which have an importance in connection with the surgery of this organ. The frequent existence of a second artery to one pole, may explain why tuberculosis is so often limited in its distribution in this organ. This arrangement of arteries is also to be borne in mind in nephrectomy, as its neglect has given rise to serious hemorrhage. The arterial supply of the capsule is distributed over the anterior and posterior sides of the kidney and to its two poles. Paranephritic abscesses are generally found in one of these four positions. The freedom from anastomosis of all the little arteries in the substance of the kidney explains the occurrence of multiple abscesses. In resecting portions of the substance of the kidney the operator should excise a pyramidal or cone-shaped piece, in order to avoid wounding the arteries which radiate from the hilus. In nephrotomy the incision should not be made down the back of the kidney as in an autopsy, but in the middle third of the lateral surface, parallel to the median line of the dorsum, and about one-third of an inch removed from it. The incision should be oblique with reference to the renal surface, the knife being slanted downward toward the hilum, so as to open into the pelvis as directly as possible. This incision gives the best chance to find a calculus when the pelvis is small, and avoids all large arterial branches, and thus diminishes the risk of hemorrhage and of subsequent colic, and economizes the renal tissue to the greatest possible extent.

SOCIETY PROCEEDINGS.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-seventh Annual Meeting, Held at Portsmouth, England, August 1, 2, 3, and 4, 1899.

[Concluded.]

SECTION ON STATE MEDICINE.

DR. J. GROVES in opening the discussion on

PERSONAL COMMUNICATION OF TUBERCULOSIS AND THE MEASURES AVAILABLE FOR ITS PREVENTION,

said that twenty-five years ago phthisis was supposed to

be a purely hereditary disease: now it is known to be communicable, and as such must necessarily come under the cognizance of the sanitary officers. But authorities are not yet agreed as to the degree of this communicability. He was not at present in favor of notification, which would result in the breaking up of families. Phthisis is on the decrease in consequence of better ventilation and sanitation.

DR. A. NEWSHOLME said that all present views of phthisis are founded on the idea of its communicability. Notification should be enforced on quite different lines from those applied to the more acutely infectious diseases. It is a communicable disease, but its communicability is much more manageable than that of other infectious diseases, seeing that it has to do almost solely with disinfection of the sputa. The medical officer of health should be associated with the family doctor in notification. The advantages derived from inspection would give the greatest success in the prevention of phthisis. There is in Brighton a modified system of notification. Dr. Newsholme gave particulars of the visits recently made in fifty-six such cases. He advocated the giving of a fee for voluntary notification, which he wished to be adopted. Visits of the medical officer of health should be confined to those cases in which the medical man attending makes no objection. In certain districts compulsory notification might be even now adopted, without penalty in the event of the practitioner objecting to notify.

DR. NEWSHOLME spoke on the

MEANS OF PREVENTING THE SPREAD OF INFECTION IN ELEMENTARY SCHOOLS.

Other measures are even more imperative than the medical inspection of schools and scholars. These are the provision of prompt medical attendance upon children who become ill, in order to secure an early diagnosis, with proper treatment and isolation if necessary. Medical inspection of scholars, with the bacteriological investigation of their discharges (nasal, aural, etc.), has only a limited utility in preventing the spread of infection. To combat such diseases must be chiefly the affair of parents and private medical practitioners. Absentee scholars who are ill should be visited at home for diagnostic purposes alone by the medical officer of the school; but the public is not yet prepared for such an innovation. The speaker described and exhibited the forms used in Brighton for the notification of infectious diseases by school authorities, and stated the advantage accruing from their use, especially in the obtaining of an increased school grant.

DR. H. R. KENWOOD considered that all pupils in schools should be examined twice a year at least in non-infectious times; whereas, the inspection might be made daily in times of epidemics. Prizes for maximum attendance should be abolished, as children, in order to obtain them, often attend when for medical reasons they should be at home, if not in bed.

DR. A. NEWSHOLME concluded by moving a resolution requesting the Council of the British Medical Association to make representations to the Education Department, urging upon the department the necessity, from the standpoint of the public health, of authorizing medical officers of health to inspect all school premises, and to inspect or secure the inspection of scholars when the prevalence of infectious disease is judged by him to make such an inspection desirable. The resolution was carried unanimously.

DR. J. K. BARTON read a paper in which he insisted that the prevalance of decayed teeth in children is due to artificial feeding with improper food. The use of sterilized pure cow's milk would prevent such decay of teeth, which is especially prevalent among rickety children. The examination of the teeth of children in schools is done too late to prevent the decay, which is due to improper feeding in infancy.

SECTION ON DISEASES OF CHILDREN.

The second meeting of this section was opened by DRS. A. M. GOSSAGE and J. A. COUTTS on

THE ETIOLOGY OF CONVULSIONS IN INFANCY.

They pointed out that true convulsions are much more infrequent than is generally supposed. Predisposing causes are more important than exciting causes. The instability of the infantile nervous system is one cause, but there are others, such as inherited neurotic conditions and rickets. The alleged frequency of teething and digestive disturbances, convulsions as merely the equivalent of signs at the onset of acute diseases and exanthemata, and the convulsions in asphyxia were discussed.

DR. HUGH JONES regarded all convulsions as symptomatic only. Of recent years there has been a fall in the number of recorded deaths from convulsions, corresponding with a decrease in other diseases, and with improved general sanitation. Dr. Jones attributed the majority of the cases to bad feeding. A symptom is not the cause of death, and certificates of death should be accurate and precise. Death cannot be combated by registering symptoms.

MR. JOHN LANGTON, who read a paper on

THE TREATMENT OF INGUINAL HERNIA IN INFANCY AND CHILDHOOD,

gave statistics regarding the relative frequency of the condition in the two sexes, and touched on its prevalence in children of the Jewish race. He thought the diagnosis simpler in infants than in older children. He discussed the frequent association of umbilical hernia with other hernias. He laid great stress on the proper dieting of children suffering from this affection, and considered that phimosis does not play an active part in the production of hernia. He discussed the questions of exercises and mechanical forms of support and condemned the wool truss. He also spoke in detail with regard to different kinds of trusses, the proper instruction of the patient's parents or guardians, and the length of time during which a truss should be worn. He discountenanced operation prior to six years of age, except under pressing circumstances, and enumerated the cases in which operation is necessary. He preferred kangaroo tendon for sutures.

SECTION ON ANATOMY AND PHYSIOLOGY.

The address of the President, DR. J. J. CHARLES, was on

THE RECENT ADVANCES IN PHYSIOLOGY.

The speaker referred in detail to the numerous minor discoveries which have been made in this science during the past year or two. He gave great credit to English physiologists, who have of late years contributed their full share toward the advancement of the science, so that it is no longer necessary for a student to study physiology in Germany if he would place himself in the best position to obtain full command of his chosen specialty.

A discussion on

THE INTERACTION BETWEEN THE OVARIES AND THE MAMMARY GLANDS

was opened by MR. STANLEY BOYD. He showed that removal of both ovaries in some cases caused apparently a total disappearance of well-marked cancerous growths. The most marked case was one of a woman who, twenty-eight months after the operation, was apparently in perfect health and free from cancer. In other cases quoted the success was only partial; the growth at first underwent atrophy, and the patient's sufferings were for a time relieved, but this was later followed by recurrent growth in different parts, and finally by death. In other cases, especially those of "acute cancer" in young people, the operation seemed to have no marked effect. The administration, by the mouth, of the extract of thyroid gland appeared to produce uncertain results in some cases; the patient's condition was sometimes even made worse, while at other times there seemed to be slight improvement or no marked effects.

DR. AMAND ROUTH showed that ovulation proceeded normally after removal of both mammary glands, that lactation is unaffected by the removal of both ovaries during pregnancy, and that these combined facts establish fairly well the belief that there is no essential interaction between the ovaries and the mammary glands. From a case quoted it was shown that lactation was perfectly normal in a woman whose spinal cord was destroyed by an accident at the level of the fifth and sixth dorsal, proving that spinal conveyance of the pelvic influence is not the essential route. Further facts tend to show that lactation is due to some chemical change in the blood, and that this change is almost certainly in the uterus and not in the ovaries, and is practically an internal secretion.

MR. W. R. WILLIAMS, F.R.C.S., observed that cancer is known to subside under various states of constitution which reduce the general health to its lowest ebb.

MR. CANTLIE asserted that when the ovaries physiologically waste in a patient the subject of cancer the disease assumes a different state to that seen when the ovaries are normally active.

DR. PEMBREY referred to instances in which the ovaries of animals being diseased the development of the mammæ has been distinctly affected. MR. STANLEY BOYD, in replying, repudiated any suggestion that his operation is to be considered a "cancer cure."

SECTION ON PSYCHOLOGY.

The Presidential address was given by DR. DAVID NICOLSON, C.B., Lord Chancellor's Visitor in Lunacy, on the question,

CAN THE REPROACHABLE DIFFERENCES OF MEDICAL OPINION IN LUNACY CASES BE OBVIATED?

It was pointed out that the right estimate of conduct and of motives requires prolonged and careful observation, and this applies with peculiar force to judgments formed regarding cases of mental disease. The medico-psychologist has to use neurological methods—tests regarding reflexes, sensibility, etc.—as well as those belonging more properly to the domain of psychiatry. Particularly difficult to detect are cases of malingering or so-called feigned insanity, which often require prolonged watching and examination at an asylum before a definite conclusion can be reached. All medical men signing lunacy certificates should have asylum experience in the study, care, and treatment of insanity. It is a deplorable fact that owing to want of such knowledge and experience among the body of general practitioners cases of lunacy with suicidal and homicidal, or other dangerous impulses pass largely unrecognized in the community.

DR. SAVAGE opened a discussion on

THE TEMPORARY CARE OF INCIPIENT CASES OF INSANITY,

pointing out the desirability of extending some of the provisions of the proposed act of last year as regards the certification, readmission, and care (as single patients) of incipient lunatics.

DR. SEYMOUR TUKE said that it would be well to have every house and every person taking patients duly registered; and, further, it would be advisable that no person should be granted such permission who cannot show that he or she has some knowledge and experience of insanity and its treatment. The existing system which permits (or winks at) any one who choses to do so to take charge of patients of unsound mind is a scandal. Notification of certification should be the rule in all cases —every case should be brought under official cognizance.

DR. LIONEL WEATHERLY said that he had advocated for twenty years the view that supervision is as necessary in private houses receiving single patients as in public institutions. The great increase in recent years of the clandestine treatment of insanity in private care is a scandal, and he would welcome any legislation which provides for some supervision over these single cases. In very recent cases he feared some of our leading consultants were not altogether blameless.

DR. SHUTTLEWORTH opened a discussion on

THE TREATMENT OF EPILEPTICS AND IMBECILES.

He said that there is at present no provision for sane epileptics in England. In the United States such provisions are afforded by the Craig Colony, New York, and by similar institutions. The system is generally that of detached cottages for housing the patients, and the buildings are spread over a large area. Workshops and gardens, orchards, farms, etc., are provided for teaching and training in useful occupations and industries. An institution of such a kind would be a boon to the country.

DR. FLETCHER BEACH referred to the medical aspects of the question. He spoke well of the alkaline bromids

and of strontium bromid. The addition of liquor strychninæ in suitable cases prevents spinal-cord depression. Workmen liable to fits should receive 60 grs. of bromid on going to bed. In syphilitic cases the addition of the alkaline iodids is indicated. Errors of ocular refraction should be corrected if present. Open-air occupation and a diet in which nitrogenous food (meat, eggs) is reduced to a minimum should be the rule. All epileptics should be advised not to marry—emphatically.

Dr. Lloyd Andriezen referred to the importance of open-air occupation in farms and fields. The system of providing workshops not only for industrial training, but to make institutions for epileptics in a measure self-supporting is a step in the right direction. In the administration of bromids he had found the addition of a small quantity of syrup of the hypophosphites beneficial in averting muscular depression and feebleness of circulation. For several years he had tried a combination of antipyrin (5 gr.) and ammonium bromid (15 gr.) in cases of epilepsy, and found it beneficial in preventing apathy and stupor which patients would otherwise exhibit, and in promoting a degree of mental brightness and clearness.

Dr. Haig contributed a few remarks on the value of non-nitrogenous diet in epilepsy. He recommended the total disuse of meat, eggs and tea, and proposed a system of diet free from uric acid, which substance he looked upon as the primary agent in producing attacks of headache and mental dulness and depression, and even epilepsy. The diet recommended consists of 10 ounces of bread per diem, 12 ounces of vegetables and fruit, and about 2 ounces each of oatmeal, rice, milk, and cheese. Macaroni, potatoes, etc., can be taken in proportion to the wants of hunger and labor; and those patients who have been accustomed to eat much meat may be given in addition small quantities of protein and gluten.

Section on Pharmacology and Therapeutics.

Dr. Burney Yeo introduced the subject of

intestinal antiseptics.

He stated that they should be used to antagonize the evil effects of toxic agents, or, in other words, to prevent auto-intoxication. The scientific basis for the use of antiseptics rests on our knowledge of bacteria. Our aim should be to render the bacteria non-virulent. Morbid conditions calling for the use of antiseptics are gastric dilatation, duodenal indigestion, summer diarrhea, and remote affections of other organs. Dr. Yeo dealt with the use of sterilized water, mercurials, chlorin, bismuth salts, and carbolic acid, but recommended more especially menthol, thymol, and other volatile substances which are not absorbed by the stomach. Salol cannot be relied upon. In a large number of cases irrigation is also desirable.

Dr. Hugh Walsham read a paper, entitled

cases treated with erythrol tetranitrate.

He found its administration safest in the form of chocolate tablets. The patients treated were suffering from various forms of heart disease, from interstitial nephritis and from Raynaud's disease. Success was obtained in nearly every instance.

The President remarked that he had frequently used the drug and that the danger of explosion, with ordinary precautions, might be neglected. He had known sleeplessness of Bright's disease to be relieved by a single dose.

Section on Laryngology and Rhinology.

A discussion on

the diagnosis and treatment of chronic empyema of the frontal sinus

was opened on Thursday by Mr. Charters J. Symonds. He thought all were agreed upon two points: (1) The necessity for a free external opening in bad cases; (2) the usefulness of removing the anterior part of the middle turbinated body. Evidently, the weight of opinion favors intranasal methods. These may suffice for the simpler cases, but no force must ever be used. Opening the sinus from the nose is universally condemned as very dangerous. He does not attempt to remove all mucous membranes.

Section on Tropical Diseases.

Dr. George Thin opened the discussion on

psilosis or sprue: its relations (etiological and pathological) to other forms of tropical diarrhea, and its treatment.

He said that the disease is characterized by irregular and abnormal motions, there being, first, diarrhea, varying much in severity, frequency, and persistence; secondly, symptoms of disordered digestion, dyspepsia being always present; and, thirdly, progressive emaciation. He contested the opinion that sprue can arise in persons who have never been out of England. He drew attention to two types of the disease—one common in the Eastern Archipelago and the other common in India. In the former, mouth, tongue, and throat symptoms are prominent early; in the latter copious watery stools are the chief feature, and the mouth and tongue symptoms develop late or not at all. In the condition to which the term "white flux" or "diarrhea alba" is applied in India, mouth symptoms are usually synchronous with advanced malnutrition and emaciation. Dr. Thin said that of cases of sprue a third class develops in the Far East in elderly persons or in persons who have lived long in that region. Diarrhea is the initial sign, but very gradually the tongue grows raw and bare. A fourth class of cases is distinguishable in persons who have lived in the East and developed sprue after returning to reside in England. The pathology of sprue was summed up as a gradual atrophy of the organs of the body and a general emaciation. Atrophy of the mucous membrane of the stomach and intestine develops, and a sclerosis of the submucosa, but why the disease attacks the intestine is not known. Dr. Thin looked upon ulceration of the bowel as quite a secondary phenomenon. The etiology of sprue is unknown. It is associated with residence in certain parts of the world, and not in others. A specific poison, in all probability resident in the ileum, causes the disease.

DR. MANSON said that in his opinion sprue should be regarded not as one disease but as a variety of diseases, with a series of symptoms in common. In the tropics the abdominal organs are functionally very active, and suffer from subsequent exhaustion; hence their special liability to invasion by parasites and by various ailments. He regarded sprue in the tropics as pandemic, and had met with cases from the West Indies, India, and China. He recommended rest in bed, warmth, and simple diet. Milk and fruit (such as bananas) he held to be the staple diet, but considered that meat is indicated at times.

MR. JAMES CANTLIE read a paper on

SUPRAHEPATIC ABSCESS,

which he defined as a collection of pus between the layers of the broad ligament of the liver, having as boundaries the peritoneum circumferentially, the diaphram above, and liver below. The affection is not preceded by hepatitis, dysentery, or any other abdominal ailment. It is characterized by sudden onset, symptoms of fever, cough, and some respiratory distress. When allowed to pursue its course, the pus usually finds its way through the diaphragm and lung to a bronchus, from which the purulent matter is expectorated. He believed the disease to be due to chill, which causes a lymphangitis of the channels between the layers of the broad ligament. Dysentery plays no part in the etiology of the suprahepatic abscess. The pus is sterile; in other words, the suprahepatic abscess is the "sterile pus abscess" concerning which so much discussion has taken place. Local evidence of the disease is met with in the region of the right nipple, where, immediately internal to the nipple line, the highest point of an inverted saucer-shaped or cup-shaped area of dulness exists. The immediately superimposed part of the right lung suffers a fleeting congestion, which tends to obscure the area of the outline of the abscess, and may lead to mistakes in diagnosis and delay in treatment. Mr. Cantlie recommended early exploration, and, when pus is found, tapping by a large trocar and cannula, and the introduction of a drainage-tube of the largest size, in the manner recommended by Dr. Manson.

THERMIC FEVER OR SIRIASIS,

which has evoked much discussion lately, was dealt with by COLONEL KENNETH MACLEOD. There is no proof that any microbe peculiar to the disease exists, and Giles has shown that the injection of blood taken from persons suffering from heat-fever is not followed by any specific pathological change. All the organs in tropical climates which are called into overaction by the influence of heat soon tend to become played out. Hepatic excitement is followed by hepatic exhaustion, and so it is with the power of resisting heat. Long exposure to heat lessens the power of accommodation of the heat centers, and accounts for the decrease in the power of old tropical residents to withstand prolonged heat.

DR. SAMBON said that heat alone can not cause siriasis, and that there are many arguments in favor of the disease being due to a microbe. Many of the leading men in tropical pathology are favorable to such a conclusion, and Wood of Philadelphia has described a micro-organism.

MAJOR GILES, I.M.S., said that the geographical distribution of the disease argues in Dr. Sambon's favor. In proof of this he stated that the prevalence of sunstroke in many parts of the tropics is quite exceptional. As an example he cited the fact that troops in South Africa work in a temperature as high as in India, yet they are not subject to sunstroke.

DR. MANSON contended that though there is no direct proof that thermic fever is due to the toxic influences produced by a microbe, there is much in favor of such a theory. Microbes and parasites of many kinds develop only when a certain temperature is reached, and it seems, from a study of thermic fever, that at a certain given temperature a microbe is called into play which by its toxin produces the train of symptoms called siriasis.

A paper contributed by LIEUTENANT-COLONEL M'CARTIE, I.M.S., entitled

THE CAUSE AND PREVENTION OF HEAT APOPLEXY IN THE ARMY,

was read. The writer maintained that it is the uniform served out to the troops in India that is the main cause of the excess of sunstroke among them as compared with civilians. He showed that during an expedition the soldiers in their harassing and heavy uniform were knocked over by sunstroke while the coolies who accompanied them, although bearing heavier loads, did not suffer in the same manner. It is not only the amount of clothing, but its texture and its tight fit that places the soldier at a disadvantage. The coolies' clothing is loose and allows the skin free action so that there is a possibility of rapidly cooling the surface of the body.

SURGEON STALKARTT, R.N., read a paper on

BLACKWATER FEVER.

DR. SAMBON said that he considered blackwater fever to be a specific disease, that its malarial origin is improbable, and that both by its character and by its geographical distribution it presents all the features of a distinct disease. He entirely disagreed with Koch in his statement that it is the result of dosage by quinin.

DR. MANSON discussed the subject from a broad standpoint, and pointed out the arguments in favor of, and the arguments against the association of blackwater fever and malaria. Blackwater fever occurs in a limited geographical range; it does not occur at the season of the year in which malarial disease is most rife; the malarial parasite is not always found; and cases of blackwater fever have occurred within a short period after a tropical country has been reached, and before malaria could have acquired a marked hold on the system. On the other hand, blackwater fever occurs in highly malarial districts; the malarial parasites are often met with in the blood; the fever is most apt to occur in persons who have had many attacks of malarial fever and who have been exposed to the "climate" for three or more years.

CAPTAIN W. J. BUCHANAN, I.M.S., read a paper on

DYSENTERY AS A TERMINAL SYMPTOM OF DISEASE IN THE TROPICS.

From observation of a large number of cases, twenty-eight of which were recorded in detail in the paper, he showed that dystentery is very apt to supervene a few weeks before death, and to carry off the patient.

DR. MANSON said that Captain Buchanan's paper illustrated the power of healthy organs to resist the pernicious action. When the restraining influences which prevail during health are removed, the disease has full scope.

COLONEL MACLEOD said that dysentery is a frequent precursor of death in leper and lunatic asylums in India. He believed that when once dysentery prevails to a considerable extent in a dwelling it becomes infected, and that the infection is very difficult to get rid of.

REVIEWS.

RESPIRATORY EXERCISES IN THE TREATMENT OF DISEASE, notably of the heart, lungs, nervous and digestive systems. By HARRY CAMPBELL, M.D., B.S., London. Physician to the Northwest London Hospital, and to the Hospital for the Diseases of the Nervous System, Walbeck street. New York: William Wood & Co., 1899.

THE facts developed in this little volume may be summed up as follows: (1) there are several types of breathing—clavicular, lower costal, abdominal, etc.; (2) the character of the breathing determines a varying effect upon the circulation in the arteries, veins, and lymphatics in different parts of the body; (3) patients may be taught the exercise of the kinds of breathing, which, with or without passive motions and gymnastics of the trunk and extremities, are of value in the treatment of certain nervous, cardiac, and digestive disorders; (4) of special importance are respiratory exercises in the treatment of most chronic and some acute pulmonary lesions. In emphysema they maintain or restore pulmonary elasticity; in bronchitis and phthisis they determine salutary changes in blood-supply and blood-pressure.

The instructions for the employment of the exercises in these diseases are very meager; in fact we believe that the author has left out much that might have been said to good advantage.

TRAITÉ DE MEDICINE ET DE THERAPEUTIQUE PUBLIÉ. Sous la direction de MM. P. BROUARDEL AND A. GELBERT. Tome VI. Maladies du Cœur, des Arteres, de L'Aorte, des Veines, Du Systeme Lymphatique et Du Sang. Paris: J. B. Bailliere et Fils, 1899.

MOST of the articles in this volumeare by writers whose names are unfamiliar in America. The volume is, however, well up to the excellent standard that characterizes the preceding ones and is worthy of the ambitious purpose of the treatise to be a thoroughly up-to-date review of medicine.

The chapter on functional disorders of the heart is especially good. The digestive reflexes and the neurotic conditions generally that affect the heart rhythm, its rate and intensity, are well brought out. There is an illustration of the increased size of the heart and dulness to percussion just after a heavy meal that is of itself a striking lesson in the possibilites of mechanical stomachic interference with heart action.

Some of the French terms used in the book to describe the complications that develop in various organs as a consequence of a heart lesion are very picturesquely straightforward, for instance, the cardiac kidney, the cardiac liver, the cardiac stomach, the cardiac brain. They are impressive reminders of the complications so prone to occur in heart trouble, the real conditions that need treatment. Rupture of the heart is treated of at length. The accident is much more frequent than is usually supposed or could ever be imagined where autopsies are not made as a routine practice.

THERAPEUTIC HINTS.

Treatment of Variola.—

1. Local treatment.

For pain and itching of the early stage:

℞ Ac. carbolici cryst. } aa . . gr. xxx
Iodi }
Glycerini . . . . . Oi.

M. Sig. Brush over eruption 3 or 4 times a day.

To prevent pitting:

℞ Ol. picis liquidæ } aa . . . ℥ i
Vaselini carbolizat. }
Lanolini . . . . . ℥ iii.

Mix thoroughly. Apply to exposed parts 3 times a day. An air-tight coating is formed, which also aids in relieving pruritus.

2. General treatment.

For initial stage, give acetanilid, 1 to 5 grains every hour according to age of patient, to diminish temperature, induce perspiration, and help bring out eruption. Quinin is contraindicated as it does not lower temperature and does increase delirium. Mild purgatives are helpful. Diet: Milk, eggs.—*J. C. Slack.*

Anesthetic and Hemostatic Solution for Dental Work.—LEGRAND gives directions for the use of this solution which he states will render the extraction of teeth or roots entirely painless and prevent hemorrhage.

℞ Gelatini pur. . . . . gr. xxx
Sodii chloridi . . . . . gr. xii
Ac. carbolici cryst. . . . . gr. iss
Cocainæ hydrochlor. . . . . gr. v
B.-eucain hydrochlor. . . gr. xii
Aq. dest. . . . . q.s.ad. ℥ iii ʒ ii.

M. Sig. For hypodermic use.

Place a small tampon wet with the solution on the gum. In a few minutes begin to inject 6 to 10 minims of the warmed solution along both external and internal surfaces of the tooth. Insert the needle below the neck and pass it along toward the root, pressing in the needle as deeply as possible. Three minutes after completion of the injection the tooth can be pulled painlessly, and the blood which then fills the alveolar cavity will coagulate and prevent further loss of blood.

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ORIGINAL ARTICLES.

THE SPECIFIC CAUSE OF YELLOW FEVER. A REPLY TO DR. G. SANARELLI.

By WALTER REED, M.D.,
SURGEON, UNITED STATES ARMY,
AND
JAMES CARROLL, M.D.,
ACTING ASSISTANT-SURGEON, UNITED STATES ARMY.

WERE it not for the fact that the general practitioner of medicine in this country takes such a lively interest in all that pertains to the causation of yellow fever, and might construe our silence as an admission that we had followed faulty methods in our work, we would not at this time reply to the paper of G. Sanarelli, entitled "Some Observations and Controversial Remarks on the Specific Cause of Yellow Fever," which appeared in the MEDICAL NEWS under date of August 12, 1899. To those who are acquainted with the methods followed in the laboratories of the Army Medical Museum, we believe that we could well afford to leave this matter until such time as our completed observations might be given publication.

We pass by, therefore, as unworthy of comment, Sanarelli's insinuation that we could lend ourselves to the support of any personal controversy between himself and Surgeon-General Sternberg; and further, his advice that we should have "looked up for a moment some good treatise on bacteriology before attempting to launch such a paradox" as that bacillus icteroides should be considered to be a variety of the hog-cholera bacillus.

That our paper should partake somewhat of a controversial character, we very much regret, since we would have much preferred to publish our observations in full, so that our fellow-workers might be placed in possession of the complete details of our experimental work and thus be in a position to judge whether our methods had been good or faulty. But for the reason given at the commencement of this paper and because of the remarkable tone of Sanarelli's article, we must take up what we consider to be a somewhat unpleasant task.

Because we have recorded focal necroses in the liver of guinea-pigs and rabbits inoculated with bacillus icteroides (we might have mentioned necroses in the liver of dogs, which Sanarelli has quite overlooked); and since, in Sanarelli's opinion, we have failed to reproduce that degree of "acute steatosis" which he and others have recorded, we are designated as "victims to some deplorable neglect of technical precautions in the laboratory," and the conclusion is drawn "that a gross and deplorable error was made in their laboratory and that somehow the cultures of the two micro-organisms being experimented with got mixed for want of sufficient attention."

We are willing to admit that such a condition of affairs, as is implied in the latter part of this quotation, is possible in any laboratory; but in this connection we cannot refrain from paying our admiration to Sanarelli's mental acumen in arriving at this conclusion, since he must have realized that, if we had *not* "mixed the two micro-organisms," his claim for the discovery of the specific cause of yellow fever can no longer be sustained.

And here let us avow that we hailed with delight Sanarelli's announcement of the discovery of his bacillus icteroides as the specific agent of yellow fever and earnestly hoped that his work would be confirmed by other observers. When later directed by Surgeon-General Sternberg to carefully compare bacillus *x* with bacillus icteroides and report to him the results of our investigations we were only influenced by the desire to ascertain whether these were distinct bacilli, and if so, to see whether we could confirm Sanarelli's observations in the several animals. That we could be influenced in the slightest degree by Dr. Sternberg in arriving at our conclusions is a grave aspersion upon our reputation as scientific workers.

If it can be proved that we have "mixed" our cultures and hence arrived at incorrect conclusions, we will hasten to admit our mistake. Let us see whether we have been careless in our technical precautions, and hence have, by mistake, inoculated our animals with the bacillus of hog-cholera when we had intended to use bacillus icteroides.

In the first place, before proceeding to consider Sanarelli's criticisms of our work, we desire to state that the culture of bacillus icteroides with which we have made the majority of our observations, was obtained by Dr. Sternberg from Pasteur's laboratory. We are informed by Dr. Sternberg that the package containing this culture was opened by Professor Roux in his (Sternberg's) presence and the culture

handed to the latter. It was delivered to one of us by Dr. Sternberg on the 24th day of September, 1897, and bore the label of the Laboratory of Hygiene, University of Montevideo. We may remark that this culture was not in the shape of the ordinary stroke culture, but contained a number of well isolated colonies, such as would be obtained by inoculating an agar slant with a small drop of the blood of an infected animal. Several of the colonies on this agar slant showed the peculiar appearance of growth which Sanarelli considers as characteristic of bacillus icteroides. It was from one of these so-called characteristic colonies that we made our first transfer. Subsequent transplantations have been made by us at intervals of about four weeks, and have always been labeled "Bacillus Icteroides, Original." We have thus transplanted this original culture on agar, without transmission through animals, for a period of nearly two years. Like our other stock cultures, it has been kept in agar tubes provided with rubber caps and always in a dark closet.

In the second place, at the time that we began our investigations (September, 1897), no culture of the hog cholera bacillus was in our laboratory, nor did we procure a culture of this bacillus from the Bureau of Animal Industry until the following spring (May, 1898) about seven months after we had begun our work

We may be excused for particularizing somewhat in this connection in order to set ourselves right before those who are interested in this subject.

Let us then state that the hog cholera bacillus was one with which neither of us was acquainted, except as to some of its most prominent morphological and biological features, such as size, motility, growth in milk, and in the three sugars; but we had not witnessed its pathological effects in the smaller animals. We had more than once commented on the fact that its action on litmus milk, and in the three sugars was similar to that of bacillus icteroides; but as we were not prepared at that time to look upon bacillus choleræ suis as a secondary invader in human beings, we did not follow up the subject further.

During the month of February, 1898, we had ascertained that the blood-serum of a dog partially immunized against bacillus icteroides, although exercising decided agglutinative action upon the latter, was negative as regards the typhoid bacillus and bacillus coli communis, except in low dilutions. At this time our observations were almost completely interrupted by our duties with the class of the Army Medical School. We had scarcely resumed our work when we were honored with a visit from Dr. Theobald Smith, formerly of the Bureau of Animal Industry, and who did all of the bacteriological work recorded in the "Report on Hog Cholera; Its History, Nature, and Treatment," to whose instructive pages Dr. Sanarelli has so courteously invited our attention. We communicated to Dr. Smith the fact that bacillus *x* (Sternberg) when injected into the circulation of dogs would cause the same general symptoms, and the same extensive hemorrhagic lesions in the stomach and intestine as was produced by bacillus icteroides, and hence that these lesions were not confined to the action of the latter bacillus. Dr. Smith then remarked that in reading Sanarelli's various articles, *he was continually reminded of the hog-cholera bacillus.*

When further told by us that bacillus icteroides produced multiple necroses in the liver of guinea-pigs, he remarked that he was of the opinion *that bacillus icteroides would yet be placed in the hog-cholera group.* Fortified by this expression of opinion by one, than whom no one is more conversant with the hog-cholera bacillus or its pathological action, we for the first time proceeded to procure a culture of bacillus choleræ suis, and to test the action of our dog's serum, with the result already given in our preliminary note. As we had *already*, many times, obtained these focal necroses in guinea-pigs with bacillus icteroides, how could we have "mixed the two micro-organisms?" We could scarcely have mixed what we did not have in our possession. If, as Sanarelli has stated, these "focal necroses are entirely specific for hog-cholera," we had already proven by the production of these that bacillus icteroides was a variety of the hog-cholera bacillus. It is very important to note that cultures taken from these animals gave, in about thirty per cent., colonies similar in all respects to those described by Sanarelli as characteristic of bacillus icteroides.

Turning now to Sanarelli's criticisms of our work, these may be stated as follows:

First. The marked difference in growth on potato of his bacillus and bacillus choleræ suis.

Second. That the toxin of his bacillus resists a temperature of 100° C., while that of the hog-cholera bacillus undergoes modification as low as 60° C., and is entirely destroyed at 100° C. Sanarelli here quotes from Selander's observations.

Third. Dissimilarity of growth in gelatin plates of these two bacilli.

Fourth. That while the hog-cholera bacillus produces a large number of foci of coagulation necrosis (the organ is not stated), these do not occur in animals inoculated with bacillus icteroides.

Fifth. That we have failed to produce acute steatosis, or fatty degeneration of the liver in dogs injected with his bacillus.

As regards the difference in growth on potato

Sanarelli says, "it is sufficient to recall that the bacillus of Salmon forms on potato a luxurious brownish-colored culture somewhat like that of Mauve, while my bacillus icteroides develops on potato completely without color and is scarcely visible."

Salmon and Smith,[1] in their report, implied neglect of which on our part to even casually glance at, has occasioned Sanarelli so much apparent regret, state as follows: "growth on boiled potato when at 95° F., appears as a faint straw-colored deposit within twenty-four hours after inoculation. At 20° C. or 25° C., it appears one or two days later. It slowly spreads in all directions as a layer of perceptible thickness. The color changes to a dark brick-red, or *may remain whitish* (italics our own). In general the growth is darker the more rapidly the potato dries up."

Smith and Moore,[2] in describing the growth of several varieties of the hog-cholera bacillus, state "that there may be slight variations in the depth of color of the growth on potato due to variations in the potatoes used. Now and then potatoes are encountered on which no growth appears. The surface assumes a glistening appearance, but multiplication perceptible to the eye does not take place."

Welch,[3] describing the growth of the hog-cholera bacillus, says: "the growth on potato assumes generally a brownish or yellowish tint, *but it may be white* and *sometimes is indistinct* (italics our own), although microscopically the growth is abundant."

Our own observations show that the hog-cholera bacillus, when transplanted on potato grows, as a rule, as a moist straw-colored or brownish layer spreading over the greater part of the surface of the medium; but that exceptionally it presents a moist, almost colorless layer. Cover-slips from this moist, almost colorless layer show that a marked multiplication of the bacilli has taken place.

It will thus be seen that the growth of the hog-cholera bacillus on potato is variable, and that it does not always produce "a luxurious brownish colored growth," as claimed by Sanarelli.

Our experience with the growth of bacillus icteroides on potato is at variance with that given by Sanarelli. Both of us promptly transferred to various media the original bacillus icteroides turned over to us by Dr. Sternberg on September 24, 1897. As regards the growth on potato, we quote from our notes made on September 29th, 1897, as follows: Dr. Carroll, "a moist brownish growth." Dr. Reed, "grows less rapidly than bacillus *x*, giving a moist, thin, brownish layer, which spreads over the surface of the medium." These were duplicate observations made independently of each other.

Our subsequent observations have shown that bacillus icteroides on potato may grow as a colorless moist layer, or as a faint yellowish layer, or that it may show a decided brownish color.

A. Agramonte,[1] who spent some months in this laboratory comparing a bacillus which he had obtained from yellow-fever cadavers at Santiago, Cuba, during the summer of 1898, with bacillus icteroides, could find no difference between these. He says as regards the growth of this bacillus: "Potato cultures for twenty-four hours at 39° C. gave an abundant pale-cream, almost colorless growth; when compared side by side with others made of bacillus icteroides it was impossible to differentiate them. At the end of a week the cultures remained of the same color; while some of bacillus icteroides had taken on a *brownish* tinge (italics our own), others remained the same.

All of which goes to show that bacillus icteroides does not always grow on potato as a colorless, scarcely visible layer, as claimed by Sanarelli, and hence that he cannot safely base a differentiation on this account between his bacillus and bacillus choleræ suis. It would be well if Sanarelli would recall our experience with the typhoid bacillus. As with that bacillus, so with bacillus icteroides, it may or may not grow on potato as a colorless layer.

With reference to the claim of Sanarelli that the toxin of his bacillus will resist a temperature of 100° C., while that of the bacillus of hog-cholera undergoes modification as low as 60° C., and is entirely destroyed at 100° C., we have no observations of our own to record. We propose to show, however, that his statement concerning the supposed effect of certain temperatures on the toxin of the bacillus choleræ suis, which he quotes from Selander, is entitled to no credence whatever. Indeed, we consider Sanarelli's reference to the work of Selander and Metchnikoff[2] as particularly unfortunate, since subsequent observations have conclusively demonstrated that at that time, 1890–92, neither Selander nor Metchnikoff were working with the hog-cholera bacillus!

We almost feel like suggesting to our distinguished critic that he should follow the advice which he seems so willing to give to others, and spend a brief time in consulting the literature on this subject.

Referring to Selander's investigations, Welch and Clement[3] say: "We wish, however, in this connec-

[1] "Hog Cholera," Bureau of Animal Industry, Washington, 1889.
[2] "Infectious Swine Diseases," Washington, 1894.
[3] *Johns Hopkins Bulletin*, vol. i, No. 1, 1889.

[1] The bacillus icteroides (Sanarelli) and bacillus *x* (Sternberg), *Centralblatt für Bacteriologie*, etc., Band xxv, No. 18–19, 1899.
[2] *Annals de l'Institut Pasteur*, 1890–92.
[3] "Hog Cholera and Swine Plague," Proceedings First Veterinary Congress of America, Chicago, 1893.

tion, to express our conviction that the organism described by Selander in 1890, and probably also that by Metchnikoff later, as the hog-cholera (or swine-pest) bacillus, is not identical with the genuine hog-cholera bacillus as we know it in this country." After recording their inability to confirm the experiments of Selander in increasing the virulence of the supposed hog-cholera bacillus, they say: "Whatever this organism of Selander may have been, we feel convinced that it was not our hog-cholera bacillus, and we base this conclusion upon the results of his experiments in Pasteur's Institute, as published, and upon our experience with the cultures with which he kindly supplied us. . . . We believe Metchnikoff's hog-cholera microbe to be one of the hemorrhagic septicemia bacilli, possibly the swine-plague or schweine-seuche bacillus."

This opinion expressed by Welch and Clement was subsequently proven to be correct by Smith and Moore,[1] to whom Metchnikoff, having confirmed the observations of Selander in increasing the virulence of the supposed hog-cholera bacillus sent the blood of a guinea-pig inoculated with the bacteria in a sealed glass tube. These writers state that "cultivated on various substrata they presented all the characters of swine-plague bacteria as found in this country." Certainly we have not claimed any affinity between the swine-plague bacillus and bacillus icteroides.

Not only does Sanarelli, in quoting from the work of Selander concerning the effect of varying temperatures upon the toxin of Selander's bacillus, confound the bacillus of swine-plague with the bacillus of hog-cholera. but he also displays the most astonishing want of acquaintance with the biological characters of the last-named bacillus. He says: "We may recall, besides, that colonies of the two forms of bacilli (bacillus icteroides and bacillus choleræ suis) on gelatin plates are as readily differentiable. even at first sight, as it is possible for bacilli to be."

On the contrary, we wish to state that plated, side by side, in gelatin, we have been unable to detect any differences in the colonies of these two bacilli with the naked eye, and that it is only by means of the microscope that faint differences can, as a rule, be made out, such as a slightly increased radiation in the colonies of bacilli icteroides, as compared with those of bacillus choleræ suis. We are, therefore, constrained to the opinion that Dr. Sanarelli has never plated on gelatin the genuine hog-cholera bacillus, such as we know it in this country.

Referring to the focal necroses found by ourselves in the liver of guinea-pigs and rabbits inoculated with bacillus icteroides, Sanarelli says: "I am very much surprised that Reed and Carroll should have found this lesion, and should have betrayed seemingly good faith in describing it so carefully, without realizing that the lesion is entirely specific to hog-cholera and limited to that affection, and is completely unknown in infections with bacillus icteroides."

We can pass by the discourteous part of the foregoing sentence; but we must confess that even had we not succeeded many times in producing these focal necroses in the liver of pigs and rabbits with bacillus icteroides, we were not prepared for the statement that this lesion was "entirely specific to hog-cholera and limited to that affection;" especially since Blachstein[1] had succeeded in producing this lesion in the liver of rabbits by the intravenous injection of bacillus coli communis and bacillus typhi abdominalis; and since, moreover, one of us (Reed[2]) working in Welch's laboratory, had caused the same lesion by injecting cultures of the typhoid bacillus into the mesenteric vein of rabbits.

Blachstein, speaking of the lesions due to bacillus coli communis, says: "The more striking and constant lesions, those most characteristic of the affection are in the bile and liver." Further he says: "only one or two such areas may be noticed, or they may occur in large numbers. . . . These areas occur both on the surface and in the depth of the liver. . . . On microscopical section these areas are found to be places where the liver cells have undergone necrosis." He adds: "These necrotic and inflammatory changes appear to be of essentially the same nature as have been observed after ligation of the common bile duct (Foá, Salvioli, Pick, and others), and occur in other infectious processes, such as after inoculation with typhoid bacilli, and with hog-cholera and schweine-pest bacilli."

Indeed, scattered areas of coagulation necrosis in the livers of these animals have been produced by other bacteria, and notably by such toxalbumens as abrin and ricin, in the hands of Flexner,[3] and we know, as stated by the latter, the close relationship existing between these bodies and certain bacterial toxins.

Again we ask, can Dr. Sanarelli be ignorant of the rich literature relating to the production of multiple focal necroses in the liver of guinea-pigs, rabbits, kittens, etc., by the bacillus diphtheriæ and its toxins? Indeed, in limiting focal necroses in the livers of guinea-pigs and rabbits to the agency of

[1] "Infectious Swine Diseases," Washington, 1894.

[1] "Intravenous Inoculation of Rabbits with the Bacillus Coli Communis and the Bacillus Typhi Abdominalis," *Johns Hopkins Bulletin*, vol. ii, No. 14, 1891.

[2] *Johns Hopkins Hospital Reports*, vol. v, 1895.

[3] "The Pathology of Tox-albumen Intoxication," *Johns Hopkins Hospital Reports*, vol. vi, 1897.

one particular bacterium, Sanarelli displays profound ignorance of the pathology of coagulation necrosis.

Turning to our statement that these lesions are caused by inoculation with bacillus icteroides, we invite attention to the fact that Agramonte,[1] to whom we communicated our observations, obtained the same necroses in pigs injected with a bacillus obtained from yellow-fever cadavers (33 per cent.) at Santiago, and which he identified as bacillus icteroides (Sanarelli). We note also that De Lacerda and Ramos[2] record the finding of "scattered yellow points" (*avec des points jaunes disséminès*) in the liver of one rabbit out of four inoculated with bacillus icteroides and which died on the second day. They say nothing about the microscopic examination of these scattered yellow points.

We have failed to find, as a rule, necroses in the livers of animals dying earlier than the fourth day, although we have generally found them between the fourth and ninth day after inoculation, especially prominent in the livers of guinea-pigs. Our earliest recorded observation was made on November 13, 1897, upon autopsying guinea-pig No. 456, dead on the fourth day after receiving 1 c.c. of a 20-hour bouillon-culture of bacillus icteroides. Concerning the liver, we note: "Organ pale; some recent adhesions, numerous small punctiform areas, yellowish white in color, to be seen under capsule."

With regard to the several observers cited by Sanarelli as in opposition to our findings, we have been unable to obtain the articles written by some of these and hence cannot state just what lesions they did find in the livers of the inoculated animals. Of those accessible to us, we find that Domennica della Rovera[3] states the following as the result of his infection of guinea-pigs with bacillus icteroides: "My experiments have demonstrated as a new finding in the liver, foci of small cells (focolai parvi cellulari) situated in the midst of the lobules; the protoplasm of the liver-cells appear very granular, the nuclei discolored and feebly stained, as well as the nuclei of the cells lining the biliary canals and capillaries." This description of Rovera agrees very well with what we have found microscopically, except that we also find larger foci, whose capillaries are crowded with polymorphonuclear leucocytes, and whose cells stain brightly with eosin, especially toward the more central parts of the area. Sometimes we find an entire lobule the seat of coagulation necrosis. This quotation further shows the accuracy with which Della Rovera has made his observations, and completely refutes the position taken by Sanarelli, *viz.:* that focal necroses are never found in the livers of animals inoculated with bacillus icteroides. Rovera[1] also says concerning lesions found in the livers of rabbits: "I also saw foci of small cells, situated within the lobules, such as I have already recorded for guinea-pigs."

In view of the foregoing observations comfirming our findings as regards the agency of bacillus icteroides in producing focal necroses in the liver of of guinea pigs and rabbits, we are constained to say that Dr. Sanarelli in emphasizing the specific character of these necroses for the hog-cholera bacillus, again shows a surprisingly limited knowledge of the work which has been recorded in this line. We are quite willing to admit, however, that these necroses are probably more abundantly produced by the hog-cholera bacillus and its varieties, such as bacillus icteroides, than by other bacteria.

This brings us to Sanarelli's fifth criticism of our results, *viz.:* that we "did not succeed in reproducing the acute steatosis, fatty degeneration of the liver in dogs that was always so prominent a feature in my own observations as well as those of Foà" and several other investigators whose names we here omit.

We have endeavored to extract from the literature, as far as the Library of the Surgeon-General's Office would permit, the experiments made upon dogs by various observers, but have not been able to find definite data except as regards the experiments of Sanarelli,[2] De Lacerda and Ramos,[3] to which we add our own results.

We submit these in the following table:

It will be seen that there are eight (8) observations by Sanarelli; twelve (12) by De Lacerda and Ramos, and seven (7) by Reed and Carroll, making a total of twenty-seven (27). Of these, six (6) dogs recovered, leaving twenty-one (21) that died as the result of the intravenous inoculation of the cultures or toxin of bacillus icteroides, or both of these. In one instance, the toxin was injected both intravenously and into the substance of the liver. Omitting one dog, which was not autopsied, we have twenty (20) fatal results, with fatty changes in liver recorded in thirteen (13), or sixty-five per cent. Of these, one, reported by Sanarelli (No. 3), died within three hours and forty minutes after receipt of the injection, and "showed that the hepatic cells were already rich in fat drops." He does not state that there was any fatty degeneration present, and we can well believe that such was not the case.

[1] *Centralblatt für Bacteriologie*, etc., Band xxv, No. 18–19, 1899.
[2] "Le bacille Icteroide et Sa Toxine," *Archives de Medicine Experimentale*, No. 3, 1899.
[3] "Sul bacillo Icteroide" (Sanarelli), *La Reforma Medica*, vol. iii, No. 9, July, 1898.

[1] *Archives de Medicine Experimentale*, No. 3, 1899.
[2] *Il Policlinico*, vol. iv, No. 16 and 18, 1897.
[3] *Archives de Med. Exper.*, vol. ii, No. 3, May, 1899.

Injection of Dogs with Bacillus Icteroides.

Observer.	No.	Quantity received.	Result.	Remarks.
Sanarelli....	1	10 c.c. of a 24-hour bouillon culture, intravenously.	Recovered.	
"	2	Agar culture diluted with 1 c.c. of a bouillon culture, intravenously.	Died during the same night.	Liver congested, but no fatty degeneration.
"	3	Agar culture diluted with 1 c.c. of a bouillon culture, intravenously.	Died in 3 hours and 40 minutes.	Liver shows numerous yellowish spots. Fresh sections in osmic show the hepatic cells already rich in fat drops.
"	4	5 c.c. of a bouillon culture, intravenously.	Died on 16th day.	Intense fatty degeneration of liver.
"	5	Agar culture diluted with bouillon—quantity not stated, intravenously.	Died during the same night.	Liver pale with zones of fatty degeneration.
"	6	2 c.c. of a bouillon culture, intravenously.	Died on 19th day.	Marked fatty degeneration of liver.
"	7	2 c.c. of a bouillon culture, intravenously.	Died on 8th day.	Fatty degeneration of liver.
"	8	5 c.c. of a bouillon culture, intravenously.	Died on 10th day.	Marked fatty degeneration of liver.
De Lacerda and Ramos.	1	1 c.c. of an agar culture diluted with 10 c.c. of sterilized water, intravenously.	Died during the same day.	No change in liver.
" " "	2	10 c.c. of an agar culture diluted with sterilized water, intravenously.	Recovered.	
" " "	3	20 c.c. of a bouillon culture into liver.	Recovered.	
" " "	4	20 c.c. of a bouillon culture 2 days old, intravenously.	Died on 19th day.	No autopsy.
" " "	5	35 c.c. of a bouillon culture 3 days old, intravenously.	Recovered.	
" " "	6	35 c.c. of a bouillon culture 1 day old, intravenously.	Died in 16 hours.	No trace of fatty degeneration.
" " "	7	18 c.c. of a bouillon culture 2 days old, and 38 days later 60 c.c. of toxin, both intravenously.	Died in about 8 hours after the 2nd injection.	Fatty degeneration of liver.
" " "	8	20 c.c. of a bouillon culture and 10 c.c. of the toxin, intravenously.	Died in 24 hours.	Liver and kidney of a blackish color. Nothing said of fatty generation.
" " "	9	60 c.c. of the toxin, intravenously.	Died during the same night.	Intense congestion of all organs. No fatty degeneration.
" " "	10	20 c.c. of the toxin, intravenously, and 20 c.c. into the liver.	Died in 24 hours.	Fatty degeneration of liver, kidneys, and heart.
" " "	11	70 c.c. of the toxin, intravenously.	Died at 1 o'clock of the same night.	Fatty degeneration of liver.
" " "	12	50 c.c. of the toxin, intravenously.	Died on 7th day.	Disseminated points of fatty degeneration but little advanced.
Reed and Carroll.....	1	5 c.c. of a 24-hour bouillon culture, intravenously, Sept. 24, 1897.	Died on 9th day.	Necroses in liver. Moderate fatty degeneration.
" " "	2	5 c.c. of a 24-hour bouillon culture, Nov. 16, 1897, and a second injection of 5 c.c. 14 days later, both intravenously.	Died in 28 minutes after second injection.	Slight fatty degeneration of liver.
" " "	3	2½ c.c. of a 24-hour bouillon culture, intravenously, Dec. 13, 1897.	Died on 9th day.	Marked fatty degeneration of liver.
" " "	4	5 c.c. of a 24-hour bouillon culture, intravenously, Feb. 9, 1898.	Recovered.	
" " "	5	5 c.c. of a 24-hour bouillon culture, intravenously, March 17, 1898.	Died in 52 hours.	Necroses in liver. No fatty degeneration.
" " "	6	5 c.c. of a 24-hour bouillon culture, intravenously, July 1, 1898.	Died in 16 hours.	Necroses in liver. No fatty degeneration.
" " "	7	5 c.c. of a 24-hour bouillon culture, intravenously, July 1, 1898.	Recovered.	

What he found in this liver may readily be found in the normal hepatic cells of dogs in a good condition of health and nutrition. We would, therefore, exclude this case as well as the case (No. 12) recorded by De Lacerda and Ramos, in which they found "disseminated points of fatty degeneration, but little advanced," in the liver. No results of the microscopic examination is given in this case to show what the true character of the "disseminated points" was, whether fatty or necrotic, and since it is not characteristic of fatty degeneration of the liver that it should be found in "disseminated points," we feel justified in also omitting this case. We will not do so, however, in order that we may not be accused of unfairness.

We thus find twelve (12) positive results against eight (8) negative results in dogs injected with bacillus icteroides. Of the positive results five (5) are recorded by Sanarelli in seven (7) animals that died (71.3 per cent.); four (4) by De Lacerda and Ramos in eight (8) dogs autopsied (50 per cent.); and three (3) by Reed and Carroll in five (5) deaths (60 per cent.). It will be seen that the percentage of cases showing fatty degeneration is highest in Sanarelli's experiments, due probable to the fact that his dogs lived longer, but that the percentage reported by De Lacerda and Ramos is less than that reported by ourselves. Since De Lacerda and Ramos are authorities quoted as sustaining Sanarelli in his observations concerning the frequent occurrence of fatty degeneration in dogs injected with bacillus icteroides, and since we have obtained this change in even a larger percentage of cases, it naturally follows that Sanarelli, in criticising us for our failure to produce fatty degeneration in the liver of dogs, was speaking as usual without any knowledge of the true facts, just as we have already pointed out that he has done in the matter of Selander's observations, and in the absurd statement that necroses in the liver of guinea-pigs and rabbits "are entirely specific for hog-cholera!" True we did state, and we wish here to repeat, that, with one exception hereafter to be given, the fatty change found in the liver of these dogs is not comparable to that found in the liver of human beings who have died of yellow fever, and we may add that there is an almost entire absence of that necroses of individual liver cells which is so prominent a feature in the human liver.

Sanarelli speaks as if yellow fever were the only condition in which fat is found in the liver cells. It is hardly necessary to remark that it may be present in considerable quantity in the livers of comparatively healthy individuals. Steatosis may mean little or much; it does not necessarily imply degeneration. Pathologists well know that in yellow fever the change that takes place in the liver is essentially one of *degeneration and necrosis*, in which the hepatic cells appear as denucleated bodies distended with minute fat-droplets and containing only a small amount of protoplasmic débris, or as somewhat refractive bodies, which stain brightly with eosin. Their outlines are very much distorted and the normal beam-work arrangement is no longer seen. Sanarelli's illustrations in Plate 10, Fig. 5, *Il Policlinico*, Nos. 16 and 17, 1897, prove that this degenerative and necrotic condition was not present in the livers of human beings inoculated with the toxin of his bacillus. In his section of dog's liver the arrangement of the liver cells is perfectly preserved, their nuclei stain well, and there is only a moderate deposition of fat in the cell protoplasm.

In connection with the production of fatty degeneration of the liver of dogs injected with bacillus icteroides, we desire to invite attention to the comparative degree of this change found in the case of dogs 531 and 928 of our series of experiments.

Dog No. 531, weight 17 pounds, was originally inoculated on February 9, 1898 with 5 c. cm. of a bouillon-culture of bacillus icteroides, from which he recovered. He was then subjected to intravenous injections of increasing doses until he was able to bear injections of 150 c. cm., of a bouillon-culture of this bacillus. On July 20, 1898, the animal had received 150 c.cm. of the culture, and died a few hours after the injection of the same quantity on July 29th. Thus this dog had received during a period of five (5) months and twenty (20) days, 1042½ c. cm. of a bouillon-culture of bacillus icteroides; yet at autopsy the liver was found to contain only a moderate amount of fat, and upon microscopic examination but slight fatty degeneration of the hepatic cells was to be seen.

On the contrary, dog 928, weight 19 pounds, was injected with cultures of the bacillus choleræ suis for the purpose of immunization, and received a total of 170 c.cm. during a period of four (4) months and five (5) days. The largest dose was 50 c.cm. injected on July 19, 1899, from which the animal died thirty-six hours later. At autopsy the liver was seen to be quite light in color, and upon microscopic examination the hepatic cells were found to be not only the seat of advanced fatty degeneration, but there were, also, to be seen many necrotic liver cells. Sections of this liver, indeed, show a stage of fatty degeneration and necrosis closely approaching that of yellow fever in human beings, and yet this animal was injected with bacillus choleræ suis! Or did we here again commit the deplorable error of "mixing the two micro-organisms"? Rather would we say that the important determining factor

in producing this fatty change was the difference in resistance of these dogs, and was not dependent on the particular variety of the hog-cholera bacillus with which we had injected them.

We observe, with some surprise, that Sanarelli does not comment on the remarkable agglutinative reaction which icteroides serum (supplied to us from Brazil, and presumably from animals inoculated with pure cultures of bacillus icteroides), exerts toward the hog-cholera bacillus. The scientific fact alone, *viz.*, that this serum diluted 100,000 times should arrest the motility and agglutinate another bacillus, should, we think, have momentarily attracted his attention; or is it possible that we here again got our cultures "mixed" and were really subjecting bacillus icteroides to the action of its own serum? Nor does he appear to have been impressed with the fact that the hog-cholera bacillus should so completely reproduce in dogs, not only the clinical picture of vomiting, rectal tenesmus, and profound prostration, but also death with extensive hemorrhagic changes in the stomach and intestines. We trust, however, that he will later procure a culture of the bacillus choleræ suis and give us the result of his observations with it on various animals. In the meanwhile, we beg to observe that Agramonte,[1] working in this laboratory for a period of four months, was unable to detect any differences between the "mixed" culture with which we, unwittingly, supplied him, and a bacillus which he had recovered in Cuba from yellow-fever cadavers, and which he identified as bacillus icteroides (Sanarelli).

Concerning the statement made by us in our preliminary note that bacillus icteroides and bacillus choleræ suis both resisted extremely low temperatures, we had not intended to "set this down as one of the characteristics of bacteria by which they might be recognized," since we did not know any bacterium that would not withstand low temperatures. We were only dealing with *bacillus icteroides as the supposed specific cause of yellow fever*, and since by a natural law the specific agent of this disease is arrested and destroyed by a temperature less protracted, and considerably less in degree, than the temperature required to destroy bacillus icteroides, we were justified in emphasizing this fact. We leave, however, to F. G. Novy, the easy task of answering this part of Sanarelli's article.

At the time we began our experiments with feeding bacillus icteroides to young hogs we were well aware that every precaution should be taken to avoid error in experiments on these animals, as emphasized by Welch and Clement.[2]

[1] *Centralblatt fur Bacteriologie*, etc., Band xxv, No. 18–19, 1899.
[2] Proceedings First Veterinary Congress of America, Chicago, 1893.

Our first experiment was made in a room where a dog had already died some weeks before from the intravenous injection of bacillus choleræ suis. On this account we did not attach too much importance to this observation. We proceeded at once, however, to procure a second-story room with cemented floor which had never been used for animal experimentation. We had it thoroughly wiped out with a disinfectant solution; we also covered the windows with mosquito-netting in order to prevent the ingress of flies. A new broom and mop were provided for this room. We placed therein four new wooden boxes, and in each of these we put a young hog on April 6, 1899. These animals had been purchased in open market, and were fat and healthy in appearance. April 8th, after withholding food for twenty-four hours, two of these pigs were fed with a twenty-four-hour-bouillon culture of "bacillus icteroides, original," passed through one guinea-pig for the purpose of ascertaining whether the bacillus grown on agar for a period of seventeen months was still virulent or not. On April 10th, 1899, the remaining two pigs were fed, under like circumstances and with a culture of bacillus icteroides having the same source. The culture of bacillus icteroides was in each case mixed with a small quantity of milk brought directly from the dealer. The temperature of the hogs was taken both before and after feeding, and we were careful to have the thermometer placed in a disinfectant solution immediately after being used. The hands of the attendant were also carefully disinfected on each occasion. Under these conditions, and with these precautions, the four animals promptly sickened and died, as shown in the following table:

Careful cultures were taken in each case from the several organs, the blood, bile, and mesenteric glands. From the liver in one case, and from the mesenteric glands in all other cases, colonies of a small, quite motile bacillus were obtained. This babillus was promptly agglutinated by high dilutions of Sanarelli's serum. From the other sources cultures were negative.

Now we think that looking at these experiments critically, there were two chances for error to have crept in; but not through lack of technical precautions or neglect on our part. In the first place, having injected the guinea-pig with "bacillus icteroides, original," we might have recovered the hog-cholera bacillus from his blood and organs, but this hardly seems probable. Our cultures were pure from this guinea-pig, and we have every reason to believe that we recovered bacillus icteroides. In the second place, as we only kept our young hogs for a few days before feeding them the culture, we

YOUNG HOGS FED WITH BACILLUS ICTEROIDES.

No.	Date.	Quantity.	Result.	Lesions.	Remarks.
976	Apr. 8, '99.	25 c.c. 24-hour culture.	Died on 9th day.	Diphtheritis of stomach and large intestine.	Diarrhea and fever April 10th, with thin, pea-soup stools. Weakness of hind extremities.
977	Apr. 8, '99.	15 c.c. 24-hour culture.	Died on 6th day.	Ulcers on lips; hyperemia of fundus of stomach; ulcerated Peyers patches; follicular ulcers in large intestine with cork-lining exudate.	Diarrhea and fever, beginning April 10th. Emaciation; loss of strength in hind legs.
978	Apr. 10, '99	20 c.c. 24-hour culture.	Died in 7 days.	Congestion and ulceration of mucosa of stomach. Ulceration and diphtheritis of cecum and colon.	Diarrhea April 11th and succeeding days. Emaciation. Loss of strength in hind extremities.
979	Apr. 10, '99.	15 c.c. 24-hour culture.	Died in 12 days.	Erosions on tongue. Diphtheritis of stomach and esophagus. Ulcers in stomach, small intestine, and cecum. Numerous small circumscribed thickenings in submucous layer of large intestine. The centers of some of these already undergoing necrosis.	Same clinical symptoms, beginning on April 12th.

cannot say that some one of these hogs may not already have been infected with the hog-cholera bacillus. They were bought in an open market, and we kept no controls for these first experiments, not being able to obtain pigs from the same litter. But admitting this chance for error, we can hardly believe that *all* of these hogs were already so badly infected with the hog-cholera bacillus that they should die within twelve days from the feeding, and that the symptoms of illness, such as diarrhea and loss of appetite, should have so promptly appeared after the inoculation with bacillus icteroides. If the hog-cholera bacillus were present in one, it was present in all, and it is remarkable that the disease should have run such an acute course after natural infection. We are informed by the dealer from whom these pigs were purchased that they had been in his possession for about a week when sold to us. He also has stated to us that during the present year, although retaining his hogs for periods varying from a few days to several weeks, he has not had any pig sicken or die on his hands.

We think, therefore, that we were quite justified, as the result of these experiments, in expressing the opinion that bacillus icteroides was a variety of the hog-cholera bacillus. We may state that nothing has occurred since the publication of our preliminary note to cause us to change this opinion; but that our subsequent results, such as the immunization of guinea-pigs with gradually increasing doses of the dead culture of bacillus icteroides against a fatal dose of the hog-cholera bacillus, and securing the same result by injections of the dead cultures of the latter bacillus against a fatal dose of bacillus icteroides, have rather confirmed us in that opinion.

We have also been permitted to study sections of the liver from the case of a soldier who died in Havana during the present year, and from the microscopical findings we are strengthened in the belief that bacillus icteroides should be considered as a secondary invader. From the blood of this case during life, bacillus icteroides was recovered both by the members of the Havana Commission and by A. Agramonte.[1] This bacillus was also obtained on cultures after death by the same observers. It is important to note, however, that from the spleen, after death, the typhoid bacillus was also obtained by Agramonte. Careful study of sections of the liver in this case shows an entire absence of fatty degeneration, while many areas of necrosis, such as characterize the liver of typhoid fever, are to be plainly seen. In other words, bacillus icteroides, though present during life in this patient's circulation, failed to bring about that "acute steatosis" upon which Sanarelli lays so much stress.

We hope, at an early date, to present our complete report to Surgeon-General Sternberg.

Smallpox at Niagara, Falls.—The spread of smallpox at Niagara Falls, New York, continues. Two new cases were reported on September 1st. The disease gained a foothold largely because cases of smallpox were diagnosed as chicken-pox.

[1] *Centralblatt für Bacteriologie*, etc., Band xxv, No. 18–19. 1899.

CARDIO-ESOPHAGEAL GUSH AND CLICK.[1]

By R. G. CURTIN, M.D.,
OF PHILADELPHIA.

In studying the sounds heard in and around the heart I have observed two a description of which I have not been able to find in the literature coming under my eye. I have every reason to think that they are extra-pericardial and, furthermore, I am quite sure that they are esophageal. In this paper you will be introduced to these two sounds, both of which are synchronous with the action of the heart; and from their many points of similarity I think they may be studied together. I will call them the cardio-esophageal gush and click. A study of the histories of the two classes, with their two sounds, will be the best way to introduce the subject.

In 1894 a girl, nineteen years old, called at my office, saying that she had a queer noise which a doctor had told her was a heart murmur that he could hear without applying the ear to the chest. She informed me that it was not so loud that day, for she could not hear it. I listened to her chest and found a mild, double, mitral murmur, with evidence of some hypertrophy. She then complained of dyspeptic symptoms only. I told her to return to me if the sound came back, which she did next day. I could then hear a sound with the action of the heart, which was then excited; and, on withdrawing my ear one yard away from the chest, I could hear the sound, which was before or early in the systole, when her mouth was open. When she closed her mouth the sound was very perceptibly deadened. It continued when her breath was held. On applying the ear to the chest the sound was subdued, being less distinct than when the ear was held in front of the open mouth. It sounded like a short gush of air from the throat modified by the upper air passages, giving it a low-pitched, grunting sound. I could get no sound at the epigastrium and there was no apparent effort of the diaphragm or abdominal walls as if expelling flatus from the stomach. The sound continued while she was talking and breathing. It did not appear to be a moan or grunt or like a regurgitation of air from the stomach.

I gave her some potassium bromid, tincture of nux vomica, and compound tincture of cardamon and mint water. She called next day and I found that the heart had quieted down and that the gushing sound was absent. She said that after the first dose of medicine the heart quieted down and the sound promptly disappeared.

A second case was that of a man about sixty-two years old, with dilated left and right ventricles. The sounds heard were similar to those heard in the case first reported and could be easily distinguished across a room. The sound had all the characteristics given in Case I. A short time later the patient died suddenly. No post-mortem examination was held.

Dr. J. Chalmers Fulton of Philadelphia told me that he had a case which I firmly believe to have been like the two cases that I have just reported of the loud, esophageal sound. I was to have seen this patient with the doctor, but he was absent from home the day we called. A short time afterward he was taken sick and died. The history is as follows: He was an old soldier. For years he had a continuous, grunting, nasal sound, synchronous with the heart's action. The sound was audible a great distance from the body. Dr. Fulton said that on a still day he had heard it across the street. It was much more audible when the mouth was open, and after taking a drink, or when excited. In fact, anything that increased the action of the heart seemed to increase the sound.

I examined the heart, which Dr. Fulton removed after death, and found nothing, except that it was generally hypertrophied. Two skilled pathologists examined it and informed me that there was nothing in the arrangement or construction of the papillary muscles, tendons, valves, or any other part of the heart to account for any abnormal sounds. From the history and the post-mortem returns I feel satisfied that this case was one similar to the two before reported.

In this class of cases the sound was diagnosticated in two instances as being of endocardial origin. It is true that the subjects all had organic heart disease, causing enlargement of the organ, but the sound heard so plainly was evidently exocardial. The sound seemed to be from the esophagus or, at any rate, from the fauces. I cannot understand how the heart could be powerful enough to force air out of the lungs with sufficient rapidity to cause so loud a sound especially during inspiration. It has occurred to me that in some of the individuals reported as having had extraordinary loud murmurs during life, without pathological changes being found after death, the case might have been of the kind here reported. Two were so considered by the medical attendants.

The sound always suggested the expulsion of a small quantity of air. My reasons for believing that it is an esophageal sound are: First, it seemed to come from the fauces; second, closing the mouth muffled the sound; third, on auscultation it was heard down to the middle of the sternum, and not

[1] Read at the sixteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

below that point. The only explanation that occurs to me which seems at all plausible is that the heart in diastole pressed out of the esophagus a small amount of air, which was re-admitted during the contraction or systole of the organ. At one time I thought it might be that the contraction of the heart opened the gullet so as to allow the escape of flatus from the stomach, but this thought was dispelled when I considered that the stomach could not possibly furnish gas enough to continue the sound for days or, as in one case, for years.

Esophageal Clicking. — This is a short, sharp, clicking sound heard generally at the end of expiration. It is plainly audible as coming from the fauces and is quite evanescent, being clearly distinguishable to-day and gone to-morrow. It is absent before a meal and present during digestion. This sound has all the peculiarities of modification of the louder, gushing sound, being dulled by closing the mouth. I have noticed this clicking in several cases.

One case in my own family I have studied very carefully and for a number of years. When the subject was twenty-five years of age this clicking sound was often noticed with the action of the heart toward the end of expiration, when one, two, or three small, sharp clicks were heard, stopping as soon as the next inspiration began. This sound was often noticed after a full meal, drinking of stimulants, active exercise, and especially after riding rapidly on the back of a rough-trotting horse. It was sometimes noticed after lying down at night without any assignable cause. The sound was subdued by closing the mouth and generally stopped by curtailing the respiration. A forced, held expiration increased the number of clicks. In this case there was no evidence of hypertrophy of the heart or any endocardial disease.

To my personal knowledge the patient had this sign more or less for thirty-eight years, it being absent for years at a time. This is one of three or four cases that I have seen. In all the cases the clicks were interrupted by inspiration.

This sound is so slight that it might be present and not be noticed by the physician or the patient. Therefore, I suppose that it is more common than the louder sound, as I have never had a patient sent to me in whom it was previously detected by a physician. My explanation of this click is that it is caused by the separation of two moist surfaces. That the heart causes it is proven by the fact that it keeps time with the heart's action. I find in the case reported that it occurred about the time of the systole of that organ. In this connection it may be of interest to state that Dr. J. J. Walsh of New York has called my attention to the fact that Bernhardt of Berlin has reported cases of clonic contraction of muscles, giving a sound or click in the ear, attributed to this clonic contraction of muscles in the neighborhood of the Eustachian tubes. These sounds could be heard at a distance from the ear and occurred as often as 80 to 120 times a minute without reference to the heart's action.

There is another faucial clicking sound which is quite common. It occurs with each round of respiration and is frequently found in subjects with old pulmonary cavities especially near the apices. This click also comes from the fauces but can be easily differentiated from the click here described by observing that it occurs with each respiration and is not synchronous with the heart-beat. I am inclined to think that these two unusual sounds that I have described are produced by the action of the heart on the esophagus; so I have presented them together in this paper.

Let us look at the anatomy of the parts: The esophagus, as found in the post-mortem room, is contracted and flattened. The walls are flaccid, having no elasticity. The position of the esophagus is found to be directly behind the heart with a small intervening space between it and the left auricle and left ventricle. They are so close that the heart has been wounded by foreign bodies which first became lodged in the esophagus. The aorta is at the side and not far away. Anatomists inform us that Trutz has found between the pericardium and the anterior surface of the esophagus a muscular slip or band. It occurred to me that if this muscular slip were abnormally developed it might influence the esophagus provided the pericardium were adherent. The study of the anatomy of the parts does not throw much light on the subject under consideration. If the esophagus were an elastic tube the explanation would seem to be easy. A mediastinal tumor, with a rigid esophagus, might introduce conditions that would assist us in our explanation of the loud sound which we are considering. You will remember that in all the three cases in which the sound was heard the heart was enlarged.

Recapitulation. — 1. The sounds were heard at the beginning of the systole of the heart and, in two cases, diagnosticated as an endocardial murmur.

2. The sounds of both were modified by respiration, being heard most markedly at the end of expiration.

3. They were all more or less evanescent, except in the case of the old soldier.

4. They were increased or developed by a full stomach, stimulants or excitement.

5. The sounds were increased by opening the mouth, and dulled by closing it.

6. They were heard by auscultation at the middle of the sternum, but very much subdued as compared with the sound heard at the open mouth.

7. The sound was not transmitted in any direction from mid-sternum.

8. They were not heard by auscultation over the stomach.

THE HYDRIATIC TREATMENT OF PNEUMONIA.[1]

BY RICHARD K. MACALESTER, M.D.,
OF GLENWOOD SPRINGS, COL.

IN the limited time allotted to me for the discussion of hydrotherapy in pneumonia I shall endeavor to cover as much ground as possible by presenting in the form of a brief *résumé* the well established data of this rather extensive subject. Those wishing to familiarize themselves with details will find this branch of therapeutics elaborately treated in a recently published book by Dr. S. Baruch of New York,[2] to whom indeed, as to Winternitz in Europe, great credit is due for the development and propagation of hydrotherapeutics in this country. I was fortunate enough to have had instruction from both the aforenamed authorities, from which, as well as from their writings, I shall quote freely without special reference in this paper.

Many observers of the widest experience in the treatment of pneumonia by various methods extol the virtues of hydrotherapy, and comparative statistics demonstate its therapeutic efficiency. Thus for instance, Fenwick of the London Hospital in an analysis of 1000 cases of pneumonia met with failure in but 10 per cent. of those treated by various cold applications, whereas the mortality was double as great when other methods were employed. In J. Hood Wright Memorial Hospital, New York, the total mortality from pneumonia has been reduced more than one-half since hydriatic treatment has been adopted. Penzoldt, from the experience of an enormous material of 2200 cases of pneumonia in children, concludes that preference should always be given to a cautious bath treatment.

By first considering some of the physiological effects of cold applications to the body surface we can best judge as to their applicability and to what extent they meet the therapeutic indications in pneumonia. A moderately cold application to the skin causes a primary contraction of the cutaneous vessels which is followed by a tonic, active, dilatation in contrast to the passive hyperemia produced by warm procedures (as for instance, poultices). The latter relax the vasoconstrictors giving rise to a stasis, whereas cold stimulates the vasodilators, producing an active hyperemia, with maintenance of vascular tone and improved circulation. Mild, cold procedures, such as usually employed in pneumonia, act reflectively through stimulation of the cutaneous nerves, on the centers in the central nerve system, and thence upon the functional activity of various organs. The respiratory system is stimulated and inspiration deepened The effect on the circulatory system is stimulation of the heart action (evinced by more forcible ventricular contractions), and neurovascular excitation, in consequence of which arterial tension is raised and the blood propelled with greater velocity and force. The general condition is invigorated and refreshed and cerebral activity stimulated. The secretory organs evince greater activity, the amount of secreted urine, for instance, increasing considerably. Owing to the compensatory powers of the body, internal temperature is not materially influenced in health

By applying the foregoing data, it will be seen that the therapeutic requirements in pneumonia are well fulfiled, and that hydriatic treatment is based on a sound *rationale*.

The therapeutic indications are: (1) To stimulate and invigorate the nerve-centers with a view to enhancing the patient's vital powers; (2) to prevent and control heart failure: (3) to reduce temperature; (4) to eliminate toxins (Baruch).

1. The stimulating action of cold applications on the nerve-centers is reflected to organs of vital importance, upon whose functions the patient's resisting powers to the toxic substances, generated by the the diplococcus pneumoniæ Fraenkel, are dependent. Soon after applying cold the patient grows calmer, respiration deeper and more regular, dyspnea is relieved, and expectoration facilitated. There is also improvement of appetite and sleep, and in the functions of the skin and kidneys.

2. Heart failure, the most dreaded complication in pneumonia, is better averted by hydriatic measures than by any other available means. The heart action is aided and maintained in the following manner: The active hyperemia of the skin, following the rapid, primary contraction of the cutaneous vessels, relieves the heart at once by broadening the stream in the cutaneous capillaries. At the same time arterial tension is raised, as proved by the better filling of the radical arteries, and a freer, unembarrassed pulmonic and systemic circulation is established. When we consider the enormous vascular area of the skin, estimated as being capable of hold-

[1] Read at the annual meeting of the Colorado State Medical Society, held at Denver, June 20–22, 1899.

[2] S. Baruch, "Hydrotherapy," Wm. Wood & Co., New York, 1898. See also "Hydrotherapy in the Pneumonia of Children," MEDICAL NEWS, November 19, 1898, and Winternitz, "Die Hydrotherapie auf Physiol. und Klin. Grundlage," Vienna and Leipsig, 1899.

ing 30 to 50 per cent. of the entire blood of the body, we can readily realize that this is a mighty source of depletion.

3. The fact that pneumonia patients are extremely susceptible, and that their temperature may be easily reduced by cold procedures, necessitates great care and precaution in the application of such measures. Although high temperature may be an important element in pneumonia and other infectious diseases by imposing more work on the heart, and adding greatly to the patient's discomfort, still it is by no means the chief danger. As I have often insisted, in discussing the matter, fever is but a symptom of disease, indicating the reaction on the part of the organism in its struggle to overcome the infection process. If vitality sinks so low as to offer no resistance to the toxemia, there is no fever, and the patient collapses at once, an occurrence which we have all had occasion to observe in lethal cases of pneumonia. Therefore, the indiscriminate administration of antipyretics with a view of reducing temperature, and thereby meeting the principal therapeutic indication, is as fallacious as is the idea, so deeply rooted in the professional mind, that the main attribute of hydrotherapy in febrile diseases is reduction of temperature.

4. The support that cold applications give to the nervous system, raising the patient's vitality and the functional activity of various organs, is conducive to the elimination of toxins.

The Hydriatic Method in Pneumonia.—Owing to the susceptibility of pneumonia patients to cold, the milder hydriatric procedures, such as the cold chest-compress or the wet pack, are indicated n general. Furthermore, these are more easily applied and controlled, and are attended by less agitation, disturbance and exertion on the patient's part. In the experience of others, as well as in my own, the milder measures are indeed quite adequate to fulfil all the therapeutic requirements in both the croup ous and catarrhal pneumonia of adults. The cold chest-compress is preferable to other procedures in pneumonia, a conclusion I had reached independently some time ago, and which I now find is in harmony with the opinion of some others. Its correct application, as of all hydriatic procedures, requires some experience and care, therapeutic failures being usually due to faulty technic. The chest-compress is composed of three folds of linen or old muslin cut in a manner to fit the entire chest, from above the clavicles down to the umbilicus, with slits in the axillary regions to form flaps and cover the shoulders. It is then wrung out of water, so that it does not drip, at a temperature of 60° F., snugly applied around the thorax, covered with a piece of closely woven, thin flannel of the same shape but at least an inch wider in all directions, and secured by safety-pins. At first the compress is changed every half hour, then every hour or two, until the patient's temperature is below 100°, when it may be discontinued. The compress should not be covered with oiled silk, a very popular proceeding on the part of attendants for the sake of convenience and protection of the patient's bed and clothing, as this would convert it into a poultice and deprive it of its stimulating and gradually cooling action.

The wet pack, at a temperature of 60° to 70° F., being a somewhat more severe procedure than the chest-compress, is indicated in the graver forms of pneumonia with high temperature. It is a very popular and efficacious method, has warm advocates, and deserves special mention.[1]

Other hydriatic methods in pneumonia advocated by prominent observers are cold full-baths (temperature 60° to 70° F.), tepid baths (90° to 92.5° F.) both with or without friction and ablutions, ice packs, the ice-cradle, cold sponging, etc.

In the pneumonia of children, the same methods as just enumerated for adults are employed in somewhat modified form. The child's sensitive nervous organization, with its greater susceptibility to cold and the development of nervous symptoms, and the minor resisting powers of the heart, as compared with the adults', render sound judgment in prescribing and extreme care in the application of hydriatic procedures imperative.

In my experience, based on the observation of a considerable number of patients treated during my practice in New York, the cold chest-compress alone proved a reliable and adequate remedy in the vast majority of cases. For children under three years of age Baruch favors tub-baths of 5 to 8 minutes' duration, with continuous friction, at a temperature of 95° F., gradually reduced to 85° or 80° F., according to the body temperature, whereas in older ones preference is given to the cold chest-compress. He also recommends the copious administration of cold water at regular intervals in the pneumonia of both children and adults, and I need scarcely add that a hygienic régime should be strenuously adhered to.

Epicrisis. — The virtues of hydrotherapeutics, being based on sound principles and scientific clinical evidence, entitle them as much to adoption by the profession at large as do the popular medicinal remedies in routine practice. I do not presume to say that drugs can be dispensed with; they have their place and field of usefulness; but their pro-

[1] While I was attending Professor Winternitz' clinic in Vienna this method was employed extensively in pneumonia with excellent results.

longed administration is often depressing, nauseating, or toxic, to the one or other organ, and they do not always fulfil the requirements of judicious treatment. In support of this view and in connection with the pneumonia of children allow me to detail an illustrative case from my past experience:

H. R., a well-developed girl, three and a half years old, was taken ill after measles with pneumonia five days previous to my first visit. I saw at a glance that her condition was very serious, and on examination found the entire and middle lobe of the right lung consolidated. Her temperature was 103.2° F., her pulse scarcely appreciable, approximately 160 per minute, her breathing rapid, superficial and obstructed, her lips and extremities markedly blue from cyanosis, and she was failing fast. On inquiry I ascertained that she had been given various kinds of medicines, all of which were inefficacious, had vomited during the previous two days, and it was with difficulty that any nourishment could be retained. I demonstrated to the parents how to use the cold chest-compress by applying the first one myself and prescribed a simple expectorant. In about an hour improvement began; the cyanosis disappeared, the pulse became stronger and slower, the respiration deepened, and, in short, the child was actually resuscitated. Shortly afterward she fell into a peaceful sleep. From then on she progressed uninterruptedly, and was convalescent two days later.

In conclusion, I ventured to state that anybody who has witnessed a few such transformation scenes as the one just described, resulting from the correct application of water after medicinal agents have proved futile, will become a convert to hydrotherapy.

A NEW METHOD OF TREATING COMPLETE TEAR OF THE RECTOVAGINAL SEPTUM BY TURNING DOWN AN APRON INTO THE RECTUM AND BY BURIED SUTURE THROUGH THE SPHINCTER MUSCLE.[1]

By HOWARD A. KELLY, M.D.,
OF BALTIMORE, MD.;
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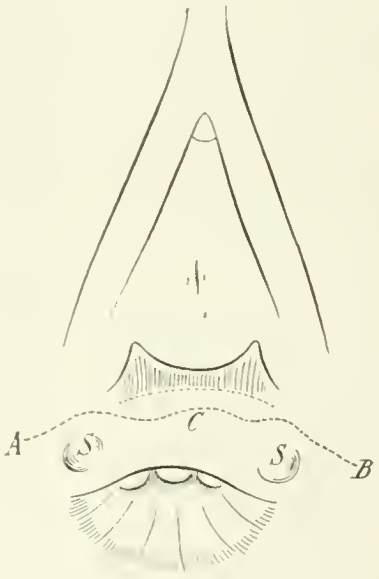
IN a paper published in the first number of the *Johns Hopkins Hospital Bulletin* of the current year I endeavored to impress upon the profession the importance of treating complete tear of the rectovaginal septum by dissecting out and liberating the buried sphincter ends, and then by uniting the freed ends by two or three interruptured catgut sutures buried with the muscle in the septum. I also showed the entire practicability in these cases of passing a splinting silkworm-gut suture directly through the center of the muscle, so as to take the tension off the buried catgut sutures, instead of passing the splinting suture well behind the muscle as in the Emmet operation.

Since the presentation of that paper with report as of series of cases which were destined to show that the immediate results of the new method were different from and remarkably better than those obtained under any previous plan, I have devised the following procedure as an additional and final step in the treatment of these cases.

The plan of turning down the flap toward the bowel did not originate with the writer. I am indebted to the courtesy of Dr. James R. Chadwick of Boston, who has called my attention to the fact that a procedure identical in all important particulars has been described by Dr. James Collins Warren of Boston in the *Boston Medical and Surgical Journal* of January 3, 1878, and in the *Transactions of the American Gynecological Society*, vol. vii, 1882. It only adds to the value of the method

FIG. 1.



to know that the credit of the invention belongs to our distinguished fellow-countryman, Dr. Warren, and I am glad to learn that instead of being new it has already stood the test of trial at his hands.

Dr. Warren's description in every important particular covers the points I would make, leaving as original in my procedure two things: First, the combination of a flap turned down into the rectum with the buried suture to the dissected sphincter; and, second, the use of figure-of-eight sutures buried in the septum to do away with the dead central space.

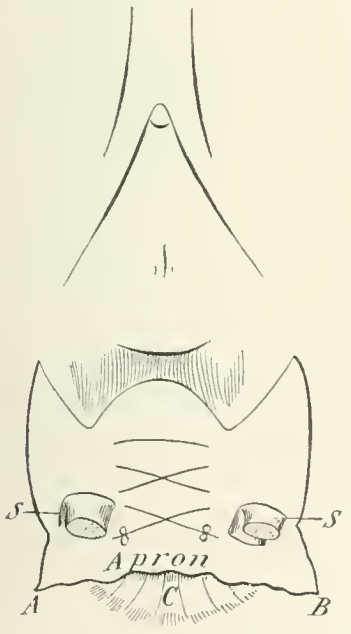
The method for performing the operation is as follows: The area to be denuded is outlined by making the basal incision across the septum on the vaginal side in advance of the sphincter ends, and at least 1 cm. in advance of the margin of the rectal mucosa. The denudation then extends up into both vaginal sulci in the usual manner. The important point in which the operation differs from the ordinary Emmet procedure, generally employed, lies in the treatment of the undenuded portion between the

[1] Abstract of a paper read at the Twenty-fourth Annual Meeting of the American Gynecological Society, at Philadelphia, May 23, 24, and 25, 1899.

basal line and the rectum. Instead of cutting this off in strips, it is dissected loose from above downward and turned down toward the rectum like an apron. The purpose of this fold or apron is to protect the broad wounded surface in the septum from any contamination on the side of the bowel, which it does in the following manner: As soon as the stitches are passed which bring the septum together from side to side, the apron of tissue is also folded loosely together and turned down toward and sometimes projecting entirely from the anal orifice. This at once protects the septum from infection, as every movement of the bowels only tends to push this curtain down and out, and no longer tends to force fecal matter up between the stitches. This natural tendency of the apron to protect the septum is reinforced by a series of delicate sutures uniting the edges. I have sometimes even left these sutures long and fastened them outside so as to hold the margins of the wound out on the surface of the body, in this way entirely doing away with any wound on the rectal surface, and robbing the operation of its only serious complication.

I next proceed to make a separate dissection of the sphincter ends by setting them free in the manner described, and when this is done the suturing is begun by drawing together the internal sphincter, which is well exposed, by a series of figure-of-eight sutures extending well up into the septum and obliterating entirely the

FIG. 2.

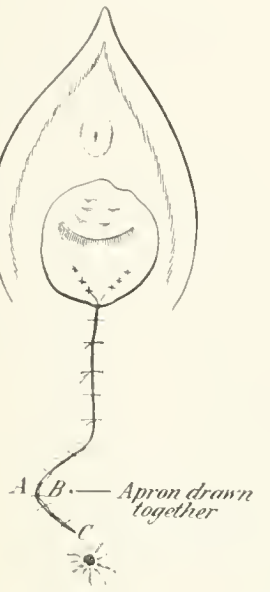


dangerous dead central space. Three or four of these figure-of-eight sutures applied in this way take the place of three times the number of interrupted sutures as formerly applied on the side of the rectum.

After closing the central portion of the septum by the figure-of-eight sutures, the sphincter ends are united by three interrupted catgut sutures. I next apply the sutures to the sulci, then to the perineal surface, using one or two silkworm-gut sutures for splinting purposes. Then, finally, I unite the edges of the apron seen projecting from the anal orifice by some very fine silk or catgut sutures.

The advantages of this operation are, first, that it secures immediate good sphincter control, and, second, that it removes from the operation the complication occasioned by the wound on the rectal surface.

FIG. 3.



MEDICAL PROGRESS.

The Eruption of Typhoid Fever —BROWNSON (*Charlotte Med. Jour.*, July, 1899) discusses the question of spots in typhoid fever. Inquiry of his medical associates revealed the fact that most physicians practising in the mountainous part of North Carolina regarded the eruption in typhoid as a rare exception. Painstaking examination in a large number of patients convinced him, however, that this opinion was an error and that typical spots are present in at least fifty per cent. of the cases. He rejects the idea that the presence of these spots in typhoid indicates that the patient has suffered or is suffering from malarial infection.

Outbreak of Secondary Carcinomatous Nodules, Thirty Years after Operation.—HEURTAUX (*Arch. Prov. de Chir.*, No. 2, 1899) cites an illustration of the very long interval which may exist between an operation for cancer and the development of secondary nodules. The patient in question was a woman whose breast and axillary contents had been removed on account of carcinoma thirty years ago. After that long period of immunity there appeared in the scar and its neighborhood, in the axilla, and finally in the thorax and vertebræ, multiple nodules of carcinoma, which grew with great rapidity. Heurtaux was satisfied that they did not represent a new carcinoma, but that they developed from the seeds of the former tumor, which had lain dormant all those years.

Resection of a Part of the Vena Cava for Carcinoma.—MANTEUFFEL (*Centralbl. f. Chir.*, July 8, 1899) removed the carcinomatous right kidney of a man aged forty-nine years. The vessels were ligated in two places and divided. The kidney remained attached to the vertebral column by its lower pole. A careful examination showed that the carcinoma had grown from the lower end of the kidney through the wall of the vena cava, and that masses were floating like sea-weed in the venous stream. The kidney was removed, the vein compressed above with an artery clamp whose jaws were covered with rubber tubing, and while assistants held the vein below, the affected portion of the wall was removed. The opening so made was 9 cm. (3.6 in.) long, and 2.5 cm. (1 in.) wide. Blood from the left renal vein spurted freely from this opening, but it was held in check by compression until two rows of stitches had been put in place. There was still a little leakage, but this ceased as soon as the artery clamp was removed and the normal venous flow was resumed. The compression of the cava had lasted fifteen minutes, during which time the pulse was scarcely perceptible. In two minutes after the removal of the clamp it was full and strong. The patient suffered somewhat from collapse in the first twelve hours, but made a quick recovery, and was out of bed in eighteen days. There were never any symptoms which indicated circulatory disturbance of any character.

The Right-Angle Continuous Intestinal Suture.—CUSHING (*Boston Med. and Surg. Jour.*, July 20, 1899) uses fine white silk, machine twisted, J. D. Cutter No. 000, for intestinal suture. The needle is inserted at about one-eight of an inch from the cut edge and emerges parallel to the cut edge at the same distance from it. It is withdrawn and a similar stitch taken in the other cut edge of the bowel. This procedure is repeated until the whole circumference of the bowel has been sutured. Tests have shown that this continuous Lembert suture, as it is sometimes called, affords an exact approximation capable of withstanding pressure from within sufficient to rupture the gut. The mesentery is united by interrupted sutures. The silk is sterilized by boiling and preserved in ninety-five per cent. alcohol containing one-tenth per cent. of corrosive sublimate. The best needle is a self-threading or spring-eye, round sewing needle, $1\frac{1}{16}$ of an inch long, the point of which has been ground flat like the Hagedorn needle.

THERAPEUTIC NOTES.

For Chronic Bronchial Catarrh.—

℞	Bals. peruviani	ʒ iss
	Pulv. myrrhæ	ʒ iii
	Ext. opii	gr. xxx.

M. Ft. pil. No. CL. Sig. Two to 4 pills every two hours.—*Marcus.*

Treatment of Purulent Rhinitis in Children.—WALSHAM, in "Nasal Obstruction," says that the general health should be improved by the appropriate treatment of any digestive disturbance which may be present, and by the administration of cod-liver oil and the syrup of the iodid of iron—the last-named drug being of the greatest utility. If the oil is not well borne, small doses of Maltine may be used as a substitute, or the syrup of the iodid of iron be used alone. The local treatment should comprise the use of cleansing agents, Dobell's solution, or weak antiseptic sprays, solutions of boric acid, bichlorid of mercury or listerine, to be used every four hours, and the mucous membrane subsequently astringed by the use of sulphocarbolate of zinc, or a spray of menthol and eucalyptol (10 per cent.) in paroleine or olive oil, or by dusting with iodoform, iodol or boric acid. If the discharge, which may persist for a long time, does not yield to this plan of treatment, the existence of some condition such as the presence of a foreign body, should be suspected, and will probably be revealed by careful and thorough investigation.

Massage for Uncontrollable Vomiting of Pregnancy.—GEOFFROY (*Centralbl. f. Gyn.*, July 8, 1899) says that the uncontrollable vomiting of pregnancy is caused by reflex contraction of the intestinal tract. This action is localized in various parts of the small intestine, but especially in the ileopelvic angle of the colon. Painful contractions at this point are pathognomonic of reflex hyperesthesia of the alimentary canal, the symptoms of which are either cardiac pain, or temporary or continuous vomiting. Light massage judiciously applied to the colonic flexure will relieve these symptoms, according to the experience of the author in several cases.

Incontinence Cured by Gradual Vesical Distention.—HAVEN (*Bost. Med. and Surg. Jour.*, June 15, 1899) mentions two cases of incontinence in older girls which he succeeded in curing completely by gradual distention of the viscus with a four-per-cent. boracic-acid solution. Both patients were eighteen years old, and both from earliest infancy had wet the bed nightly, and had found it impossible to retain the urine for more than a few minutes while awake. The bladder of one held eight ounces under pressure, that of the other only three and one-half ounces. The treatment consisted in distending the bladder until discomfort was produced, after which the patient held the fluid as long as possible—ten or fifteen minutes in the beginning, though this time was doubled later. Distention was practised every other day, and improvement was rapid. Treatment was continued until the bladder would hold twenty ounces, and then all symptoms having been relieved, it was discontinued. The elapsed time in one case was three months and in the other five months. There was no evidence of abnormality in either case, other than that the bladder was small.

For Dyspepsia, when due to lack of tone of the muscular coat of the stomach:

℞	Pulv. ipecac.		gr. iv
	Potass. sulphat. } aa	. . .	gr. x
	Potass. nitrat. }		
	Sodii bicarb.		ʒ i.

M. Div. in chart No. XII. Sig. One powder in water 5–10 minutes before meals.—*Mathieu.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, SEPTEMBER 9, 1899.

CONVULSIONS IN CHILDREN.

WHEN a period of intensely hot weather occurs late in the season and severe intestinal diseases develop in children as a consequence, it has been noted that their ailments are more frequently complicated by convulsions than under similar circumstances earlier in the summer. The wear and tear of life during the difficult heated months has apparently augmented the almost normal instability of the infantile nervous system, and as a consequence convulsive explosions of nerve force are to be expected. An interesting discussion of convulsions in children at the recent meeting of the British Medical Association brings out the present English views as to the etiology and treatment of the affection, and it seems a timely topic for the attention of all general practitioners.

Drs. Gossage and Coutts, to whom the subject was referred for special consideration and introduction to the Section, suggested in their conclusions the following points for discussion: First, the frequency of convulsions in children has been vastly overrated; second, the immediate danger from a fit has been overrated, while the danger as regards future neurotic manifestations has been underestimated; third, the predisposing causes are of much more importance than the exciting causes; the slighter exciting causes will not produce convulsions except in predisposed children.

There was very little disagreement with these propositions. The overestimation of the danger of convulsions, it was pointed out, came from the fact that in the terminal stages of many diseases of infancy convulsive movements occur, and that the death was then, unwarrantably, of course, set down to convulsions. As to predisposition, nervous heredity, etc., statistics were quoted to show that in over one-half of the cases in which patients reached adult life after having had convulsions in childhood they suffered from some variety of neuroses. These were not due so much to the malnutrition of the nervous system during infancy or to damage during the convulsive stage as to congenital faulty development. It is particularly the children of nervous, gouty, rheumatic, or diabetic parents that are liable to fits, and it is in patients in whom such a family diathesis is known to exist that any extreme of reflex irritation must be repressed or it will result in a nervous explosion.

As to treatment the discussion did not bring out anything striking, except, perhaps, by negation of the necessity for active measures. The referents said:

> All that is necessary during an actual attack of convulsions in most cases is to loosen the clothing about the neck, chest, and abdomen, and lay the child on its back with the head slightly raised until it recovers from the fit and the subsequent drowsiness. The placing of the child in a hot bath, as is such a common practice, probably does no harm, and if the child be in feeble health it may be advantageous to use a mustard bath, which has decided stimulating properties.

Very few American physicians would be content to be as inactive as our English friends suggest with anxious parents and relatives about. For the very severe convulsions or prolonged unconsciousness after a fit inhalations of chloroform even to deep narcosis were suggested. Small doses of the bromids were recommended for some days after the attack. The recurrence of an attack suggested the continuance of the bromids for weeks at least,

any harm that may be supposed to attend their use being more than counterbalanced by their benefit if they prevented the return of the convulsions.

METHYLENE BLUE AS A SEDATIVE IN INSANITY.

The history of the use of methylene blue in general therapeutics is similar in many respects to that of other aniline compounds. Early reports, backed by commercial interests, were indicative of its value as a general panacea for many of the ills of the flesh, but of recent years it has found an established though restricted field in a limited number of affections. Its value in malaria admits of little doubt and in migraine and other nervous affections evidence is slowly accumulating that will give it a recognized position among the hypnotics.

Recent studies by P. Bodoni of the University of Genoa (*Klinisch-therapeutische Wochenschrift*, No. 21, 1899, p. 666) seem to show its wide applicability as a sedative in excited mental states. He reports some fourteen cases in which the remedy was tried: these included such conditions as simple acute mania, mania with furor, periodic mania, chronic mania, and the mania of chronic alcoholism, periodic melancholia, paranoia with delirium, hystero-epilepsy, and puerperal mania. In all of these cases the remedy was administered by hypodermic injection into the gluteal muscles, in amounts varying from one to one and one-half grains. Its sedative action became manifest within from three to six hours and usually persisted a day or, in some of the cases, even for three to four days. The quieting action was not attended by any narcotic effect and there were no unpleasant after symptoms observed.

The cause for its action is not definitely understood. By analogy, bearing in mind the use of this substance in technical microscopy by reason of its affinity for nerve tissue (methods of Ehrlich, Nissl, etc.), it would appear that it has a specific action on these tissues during life. This, however, has been denied by some observers who are inclined to class the drug with the blood poisons, acetanilid, etc., and thus explain its pharmacological action. The author believes that it should take its place with others of the hypnotics, such as chloral, amylenhydrate, trional, and even hyoscyamus.

LEGAL CONTROL AND TREATMENT OF INEBRIATES.

The Legislature of the Australian Province of New South Wales has passed a law the practical workings of which will be followed with great attention by all who are interested in the various questions involved in the management of inebriety. According to the provisions of this law habitual drunkards are made amenable to State control and may be legally committed for treatment to certain institutions for definite periods of time. For the purposes of the law "Inebriate" means a person who habitually uses alcoholic liquors or intoxicating or narcotic drugs to excess: "Institution" means a place licensed under this Act or established by the Government for the reception, control, and treatment of inebriates.

The commitment is executed by a magistrate only after application in due form and after the submission of a physician's certificate, together with corroborative evidence by some other person or persons, that the person named is an inebriate and after the appearance before the judicial authority of the individual claimed to be the inebriate. It is within the discretion of the committing authority to send the prisoner for twenty-eight days to some private or public hospital or to his own or a friend's house there to be under control and treatment, or to commit him to a licensed institution for a period not more than twelve months. The law contains besides some very practical provisions to prevent its being abused or employed for purposes other than that intended—the good of the inebriate.

The Australian legislators seem to have devised a valuable measure for the solution of the trying problems associated with inebriety. Their treatment of the whole question of the habitual abuse of alcohol and drugs as a pathological condition that practically makes its victim irresponsible and therefore amenable to State control and discipline is thoroughly in accordance with modern medical views in the matter. Too much regard has previously been paid to the liberty of the individual. We congratulate our Australasian brethren of the medical profession, (for it is to their labors the law is due) on the success of their efforts to have the legal status of inebriety placed on a common-sense basis. We shall watch with interest the workings of the law

and hope to hear of further legislation along the same line among other English-speaking peoples.

THE STANDARDIZATION OF DRUGS.

An important work has been appointed to be done in Washington next May when the Revision Committee representing the American Medical Association, the American Pharmaceutical Association, and other bodies interested in therapeutics will meet for the purpose of conducting the customary decennial revision of the American pharmacopœia. Questions of unusual importance will come up for consideration and decision, and there is ground for no little satisfaction in the fact that the delegates appointed to represent the American Medical Association—Dr. Hobart A. Hare and Dr. George M. Gould of Philadelphia, Dr. F. E. Stewart and Dr. R. G. Eccles of New York, and Dr. Warren B. Hill of Milwaukee, Wis.—are men who, besides being well qualified to adjudicate on the points at issue, possess in a peculiar degree the confidence of the entire medical profession, and also of those engaged in the manufacture and sale of drugs. If the other constituent bodies are anything like as well represented, the Revision Committee will be one to which it will be possible to look with confidence for such a discharge of its duties as will make the meeting of 1900 an epoch-making stage in the history of the standardization of drugs.

Hitherto the practice has been to fix a standard of strength only for such drugs as are amenable to chemical assay. This includes, of course, such drugs as nux vomica, opium, and cinchona, regarding which standards were formally adopted at the revision conducted in 1890, and also ipecac and belladonna which the British pharmaceutical authorities have since added to the pharmacopœia recognized in the British Isles. The American revisers will no doubt include the latter drugs in the new pharmacopœia of this country, and it is highly probable that they will likewise admit and fix standards for the Calabar bean, gelsemium, hyoscyamus, podophyllum, colchicum, conium, stramonium, and veratrum, all of which lend themselves to chemical analysis.

The question is whether the work of the committee should stop here. Why, it is asked, should no standards be fixed for such drugs as ergot, digitalis, strophanthus, aconite, and cannabis indica? They are all drugs which are in universal use, and their quantitative standard is surely of as much consequence both to the physician who prescribes the remedy and to the patient who takes it as that of any other medicine. "It matters little," as one authority observes, "how much crude ergot goes to the fluid pound of the extract if the fluid fails to produce a characteristic physiologic action." What then is the objection to standardizing these drugs as well as others? Only this, that the drugs in question are not amenable to chemical assay, or at all events cannot in the present state of chemical knowledge be assayed chemically with a sufficient degree of accuracy to justify the fixing of a standard, measured quantitatively. But is this any reason why no attempt should be made to fix a standard by other means? Scientific inquirers conducting private investigations are not content to rest there, and neither are the higher class of manufacturing chemists. Acknowledging and making use of the chemical test whenever it can be applied with satisfactory results, they have recourse to physiologic tests, which as regards the question of potency are for all practical purposes equally reliable. At present, as has been pointed out, a practitioner who writes a prescription, say for digitalis, in a dozen different parts of the same town will find in some instances that he obtains a drug which exhibits a satisfactory physiologic action, and in others no satisfactory action whatever. This is submitting the drug to a physiologic test when it is too late. If, instead of leaving the patient to be experimented on, similar tests had previously been made with the article on some of the lower animals, the potency of the drug would have been known, and the doctor would be aware of the exact strength as well as the nature of the remedy he was prescribing. That the present condition of matters in this respect is recognized by the profession as eminently unsatisfactory was shown by the discussion which took place at the recent meeting of the American Medical Association at Columbus, Ohio, and it is hoped that the Revision Committee will deal with the subject in a sufficiently bold manner to provide an adequate remedy. To this end, however, it is necessary that it should be fortified by expressions of opinion both

from medical men and the manufacturers of drugs, it being to the interest of none, so far as we can see, except traders in inferior classes of drugs, to oppose the standardization of as many as possible of the drugs that are used in the practice of therapeutics.

ECHOES AND NEWS.

The Health of the Prince of Wales.—The Prince, during his recent visit to Marienbad was very democratic. While sitting on a park bench, a Polish Jew, not knowing his identity, began to question him about what he paid his doctors, etc. Finally he digged His Royal Highness in the ribs and told him he looked too healthy to need the water cure.

Cuban Yellow-Fever Statistics for August —According to the official returns for yellow fever in Cuba up to the end of August, there were, all told, 55 cases and 20 deaths during the month. The cases were distributed among natives and Americans as follows: Cubans, 39 cases, 9 deaths; Americans, 16 cases, 11 deaths. It is especially at this season of the year that fatal cases develop among the unacclimated.

Arizona's Petrified Forest —Dr. Lester F. Ward, one of the two experts on fossils with the United States Geological Survey, has gone to Arizona to secure for the Commissioner-general of the Land Office an opinion on the advisability of setting aside the famous petrified forest in that State as a National Park. Dr. Ward is an honorary curator of the National Museum, and is connected with the Smithsonian Institute.

The Lane Medical Lectures.—Sir Michael Foster, K.C.B., the distinguished English physiologist and author, will deliver the Lane Medical Lectures for 1900 in San Francisco. The lecturers in preceding years have been Mr. Christopher Heath of London, the well-known surgeon; Professor Clifford Allbutt, whose system of medicine has been so favorably commended in recent years, and our own Dr. Nicholas Senn of Chicago.

Mosquito Plague in London.—A mosquito plague of unusual dimensions has attacked the northeast of London. Bandaged heads, bootless feet, and swollen hands are conspicuous everywhere. It seems that about three weeks before the appearance of this plague Mare street was repaved with jarrah wood; and it is believed that the eggs must have come from Australia with the wood, and that Mare street has been converted, with the aid of the tropical sun, into a mosquito incubator.

Autobiography of Orfila.—It is announced by his heirs that Dr. Orfila, who was Professor in the Paris Faculty of Medicine and Dean of the Medical School from 1830 to 1848, left behind him an autobiography. Orfila was, as will be remembered, a distinguished medico-legal expert and was concerned in most of the great cases involving expert evidence during the interesting years from 1845 to 1848. Since the autobiography must also contain a picture of medical life in Paris for the first half of the century, it is hoped that it will soon be given to the public.

Obituary. — Sir Edward Frankland, the well-known chemical expert on water-supplies, who has been prominently connected with London's water-supply for nearly forty years, died recently in his seventy-fifth year while on a vacation in Norway. He was the father of the well-known bacteriologist and expert in the bacteriology of water, Mr. Percy Frankland. Sir Edward was known for his discoveries of the compounds of zinc with methyl and ethyl, and for the theoretic considerations they suggested. For this he was elected Fellow of the Royal Society, and was for years its Foreign Secretary.

Hospitals in the Philippines. — In view of the increased army now being sent to the Philippines, Surgeon-general Sternberg has issued orders for an increase of the Medical Department and hospital accommodations at Manila. As six months is required for building a large wooden hospital, it will be necessary to depend either upon tent hospitals or upon buildings already constructed which may be obtained for the purpose, 500 hospital tents have been ordered. Two hundred and fifty members of the Hospital Corps will be sent on the "Missouri," and twenty female nurses on the "Relief." Four experienced Surgeons of Volunteers, with the rank of Major, are now under orders for Manila in addition to the commissioned medical officers belonging to the new Volunteer regiments.

England's Fear of the Plague.—Sir Joseph Ewart, president of the medical section of the Sanitary Congress which met at Southampton, England, on August 30th, predicted that the near advent of the plague would find out England's weak places. Professor Simpson urged the Government to begin precautions at once against invasion and to send a small commission of physicians and bacteriologists to Portugal to study the diseases on the spot. Another proposal was that the plague commission recently engaged in India should now crown its work by a study of the same disease under European conditions. Other English expert opinion is that as these plagues are spread by contaminated drinking-water or body parasites England's best precaution is not elaborate quarantine, but persistence in personal and municipal cleanliness.

Alcohol and Life Insurance — According to the *British Medical Journal* the mortality statistics of the Abstainers and General Insurance Co. of England make a very favorable showing for total-abstainers. The tables for the first fourteen years of the company's existence show that but forty-eight deaths occurred among total-abstainers for every 100 that might have been expected to occur according to the ordinary actuary statistics of deaths and the expectation of life in the general population. Abstainers are now claiming the right to lesser premium-rates than are accorded even to the moderate drinkers

of alcohol, for their death-rate seems to be notably less. It deserves mention, however, that this lessened mortality does not occur among abstainers who are reformed drunkards. Former indulgence in alcohol leaves its mark on their system and they do not enjoy the comparative immunity from disease accorded to life-long abstainers.

A Pneumatic Sole.—A recent air-containing appliance for the shoe is meant to be used in walking and bicycle shoes and the soles of boots in horseback-riding and the like. Experiments with rubber heels have shown that much irritation of the nervous system, especially in neurasthenic subjects may be prevented by avoiding the successive shocks of hard-heeled shoes. Tender feet are frequently a cause of insufficient exercise, so that this subject of improved footwear is of special interest to physicians. The invention was made by an Italian, Signor Fabro of Udine on the Austro-Italian frontier. It consists of a rubber tube bent in the shape of a staple, or letter U. This is placed between the inner and outer sole and extends from the heel to a little past the center of the foot, where the tube is cut so as to form a bevel. The tube acts as a spring, and air is supplied to it at the back of the heel and at the lower ends of the tube. The back of the tube is also slit to allow a free circulation of air. It has been found that such a shoe is very valuable for use on long walking tours.

The Yellow-Fever Situation.—As we go to press the excitement over the development of cases of yellow fever at Key West and New Orleans is subsiding. The type of the disease thus far in Key West has been very mild, the mortality being less than 10 per cent. Unacclimated persons who have not been exposed have been encouraged to leave for the North. The names of those who left the city, and who might prove sources of infection later because of exposure at Key West, have been secured and they will be kept under observation. The Marine Hospital Service and the Health authorities of Florida are acting in very harmonious concert and both promise that the epidemic will be kept well in hand. At New Orleans no new cases were developing at the beginning of the week and it seems as though the epidemic is over for the present at least. All alarm in the city itself is past and there has been very little disturbance of commerce. The neighboring Southern States, as a rule, did not even deem it necessary to quarantine against goods coming from New Orleans.

The Plague Situation in Europe.—The case of plague reported to have been discovered at a London hospital last week has proved on investigation to be a figment of the imagination of an enterprising reporter. At Oporto three new cases were reported last week but no deaths, and this week three cases with one death. The sanitary cordon between Spain and Portugal is about completed. The Spanish Government interdicted all intercourse between the two countries, until the five quarantine stations on the frontier were established. Three of these were in working order last week and the others are supposed to be ready by this time. The temper of the Portuguese people has changed very materially with regard to the disease. At first they scoffed at the idea of the existence of plague, then they refused to believe the assurances of sanitary experts and were riotous because of the enforcement of quarantine regulations. But the realization of the seriousness of the situation is gradually becoming widespread and the enforcement of the precautions necessary is accepted more willingly.

Diseases Less Dangerous to Life.—Dr. Samuel W. Abbott, Secretary of the Massachusetts Board of Health, has presented statistics to show that diseases are growing less dangerous to human life. The hygienic condition of the people in that State was better last year than at any previous time for a half a century. There were fewer deaths by 1263 from infectious diseases than during the previous year, though the population in the meantime increased from about 2,610,000 to about 2,665,000. The number of deaths from diphtheria decreased one-half, scarlet fever more than one-half, the deaths from consumption were about five per cent. fewer, and there were only about one-half as many deaths from measles as in the former year. The death-rate was reduced to eighteen per thousand, whereas it has been at nineteen for half a century. There was a slight increase in the number of deaths from certain diseases, including typhoid fewer, pertussis, and cholera infantum. The decrease in the death-rate is attributed to various causes, as improved sanitation, stricter quarantine regulations, and a better knowledge of disease.

Assistant Physician to the Government Hospital for the Insane.—The United States Civil Service Commission announces that on October 4, 1899, examination will be held at any city in the United States where the Commission has a board of examiners, for the position of assistant-physician, junior grade. The examination will be in letter writing, anatomy and physiology, chemistry, materia medica, and therapeutics, general and special pathology, surgery, bacteriology and hygiene, and obstetrics and gynecology. The minimum-age limitation for entrance to this examination is twenty years; the maximum none. The examination is open to both males and females. From the eligibles resulting from this examination certification will be made to fill two positions in the government hospital for the insane, one from the male register at $900 per annum and one from the female register at $600 per annum. Persons desiring to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application forms 304 and 375, which should be properly executed and promptly filed with the Commission.

Consumption of Quinin in the United States.—According to the official statistics of the Treasury Department over a billion and a half grains of quinin were imported by the United States during the year ending July 1st. This is equivalent to an annual consumption of something more than 20 grains by each inhabitant. The change that has occurred in the quinin industry in recent years is

well explained by the *Scientific American* in a recent issue. "As is well known, quinin, Peruvian bark, and calisaya bark are the products of the cinchona tree, which is a native of Western South America, more particularly of Peru and Ecuador. Now, however, but a small part of the supply comes from that region. At present two-thirds of the quinin consumed is produced in Java from cultivated trees. For many years the Dutch Government was urged to undertake the cultivation of this plant from Peru. Finally this was accomplished and a large number of specimens of the different varieties were obtained by botanists, who took them to Java in 1852. The English Government also started cinchona plantations in India which now produce large quantities of quinin."

MEDICAL MATTERS IN NEW YORK.

PORTUGUESE SHIP HELD—HOSPITAL ATTENDANTS INDICTED — VACCINATION COMPULSORY —ILLNESS OF DR. VON GRIMM—EMANUEL HOSPITAL PLANS—OBITUARY — BROOKLYN'S CHARITY BUDGET—FRAUDULENT LIFE RISKS—RABIES.

THE Portuguese steamer "Oevenum" arrived at this port on September 1st from Oporto, Lisbon, and St. Michaels. All on board were well. However, the "Oevenum" has been detained at quarantine for thorough disinfection.

Daniel O'Connor, Thomas Sexton, and Patrick J. Bryan, three hospital attendants in the Manhattan State Hospital, were charged on August 28th, with having caused the death of James McGuire, the paretic, who died on August 5th. It was claimed that the three attendants, in attempting to subdue McGuire during one of his violent spasms, threw him to the floor and beat him with a club. The charge of manslaughter was sustained.

President Murphy of the Board of Health is not satisfied with the manner in which the Brooklyn, Queens, and Richmond Borough School Boards enforce section 200 of the New York health laws relating to the vaccination of school children. They are requried to be properly vaccinated before being admitted to the schools. President Murphy threatens to prevent the opening of the schools until this rule is complied with.

Seven weeks ago Dr. Andrew von Grimm, an attending physician to the Babies' Ward at the Post-Graduate Hospital was bitten by a little patient while operating. His thumb was in the child's mouth, the gag slipped and its teeth inflicted what proved to be an infected wound. On August 31st Dr. John F. Erdmann operated upon the hand of Dr. von Grimm for the third time, amputating almost the whole of the affected thumb, and excising the epitrochlear glands. Recovery is now expected.

If the State Board of Charities shall approve the plans of incorporation of the Emanuel Hospital and Dispensary of New York, Dr. Maurice J. Burstein will select a site and erect a building thereon which he will present to the institution. Dr. Burstein's associates will be Drs. Ephraim K. Browd, Henry Levien, Maurice Caspe, Harris B. Addler, Abraham Hymanson, Israel Szlachecki, Max Wolper, Bernard Scheinkman, Joseph Barsky, Morris Cisin, Max Danidoff, George I. Miller, Max Landesmann and Max Moskievitz. These physicians will serve gratuitously and will act as the hospital staff. The establishment will be used principally as a lying-in asylum. But diseases will also be treated. The charges for treatment and board will be nominal. Those not able to pay anything will be treated without charge both in hospital and dispensary.

Dr. James Fitzgerald Feeley, Chief-Surgeon and President of the Board of Managers of St. Catherine's Hospital, Brooklyn, died suddenly on August 30th. He was born in London, England, in 1844, and came to Brooklyn when a child with his parents. He graduated from the New York University Medical College in 1865, and from 1868 to 1873 he was demonstator of anatomy in this institution. He was one of the founders of the Brooklyn Surgical Society, and was a member of the Kings County Medical Society, the New York Medical Association, the New York Physicians' Mutual Aid Association, etc., etc.

Dr. William H. Caemmerer died in Brooklyn on August 30th. He was born in the East Indies seventy-eight years ago. For eighteen years he was examining physician at Castle Garden, holding that position during the Civil War.

Dr. Cornelius H. Schapps, ten years ago a prominent physician of Brooklyn, died September 1st. He was eighty-two years old. He served for many years on the Brooklyn Board of Education, and was an energetic advovate of compulsory education.

Commissioner of Charities, Adolph Simis, Jr., for the Borough of Brooklyn and Queens, has completed his budget for the year 1900. An appropriation of $703,298 is called for. This is an increase of $371,004 over that of 1899. This increase is chiefly for alterations, repairs, and additions to the hospitals and almshouse plants in these boroughs.

Some physicians in this city are said to thrive on the practice of assisting rejected applicants for life insurance to get into such physical condition as will unable them to pass the usual examination and victimize the companies. Concerning this work the representative of a large company states that there are certain members of the medical fraternity of the variety that has lost all hope of attaining success by legitimate means who will for a monetary consideration, examine an applicant for insurance who is doubtful about his chances of success, find out his physical weakness, and put him through a course of treatment which will bolster up his frame and enable him to pass as a healthy man for the brief space of time in which the examination is made. On the other hand, there are few agents who will not exhibit the profoundest resentment against the physician who rejects the subject whom the agent may have been working for months to capture.

Three children were taken to the New York Pasteur Institute yesterday by their father, Adam Beckenbach, a hatter, living in West Orange, N. J. All three had been bitten on Sunday, August 27th, by a pet dog, that after inflicting severe wounds upon each of the children disappeared, and is still at large.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

POLLUTION OF WATER-SUPPLY——ANOTHER DEATH AT ZION HOME—EFFECT OF RAINFALL UPON CERTAIN KINDS OF DISEASES—INVESTIGATIONS REGARDING CHILD-STUDY IN CHICAGO PUBLIC SCHOOLS—INVESTIGATIONS AS TO THE BACILLUS ENTERIDITIS SPOROGENES (KLEIN).

CHICAGO, September 5, 1899.

ON August 21st two questions of the utmost importance to the general public and to the business and commercial interests of Chicago were considered in conference. Consideration of the first is expected to result in revision of the municipal code relating to the care and control of the streets and alleys, and to the general sanitary and police regulations of the city. The second problem arises from a recent order of the city against the pollution of the water-supply by dumping into the lake, and threatens most serious complications which may greatly delay the completion of the drainage-canal if they do not stop further improvement of the Chicago River. Among the evils discussed at the conference which are not adequately dealt with by the existing code are: Littering of the streets by private property owners; dumping refuse in the streets and alleys; leaving barn refuse on public or private property; street obstruction by standing wagons and cab-stands, or other similar violations of a dead-letter law; rag-picking or the handling of garbage or other refuse within the city limits except for the purpose of removal; location of rag-picking depots within the city; accumulation of refuse on private property.

Among the provisions needed are: Police regulation of hauling and teaming so as to prevent littering streets; garbage and refuse receptacles to be placed on private property, with regulations for cleaning them; rules and regulations prohibiting contractors and builders from unduly obstructing streets; special regulations for cleaning and sanitary care of South Water street, markets, etc.; law against dumping of filth and other material in catch-basins and in sewers in the street; regulation against dumping on private property; destruction of dangerous or objectionable weeds or thistles on private and public property.

Many proposed changes in the laws so as to secure their proper enforcement and the conviction of offenders were discussed. Regulations prohibiting objectionable noises at night received attention. Commissioner Reynolds called attention to the continuous blowing of signal whistles on the lake and along the railroads, which, he declared, is contrary to law and makes sleep impossible in many portions of the city. The advisability of putting all sanitary inspectors in uniform was also considered. Before adjournment it was agreed that each department should formulate its recommendations, to be submitted at the next meeting of the commission.

According to our local newspapers, people are constantly dying at Zion Home, Dowie's faith healing institution. Recently a child, nine years of age, unable to exercise any discretion of her own, was brought to Zion by her parents in response, it is said, to the solicitations of Dowie, with diphtheria, from which she died. In commenting on this case a local paper editorially remarks: "If human life is sacred, and if it is of any public concern whatever that it be safeguarded and preserved as far as practicable, then the public is concerned with the rites and practices of 'Zion' in Chicago. Unless the people are absolutely indifferent to the deaths of individuals through charlatanry and fraud, they have a vital interest in depriving Dowie's 'doctors' of some of their power to do harm."

It is a difficult matter to say that an adult person shall not, if he so desires, dispense with medical attendance and depend on faith to cure his disease, but it ought not to be a hard matter for the officers of the law to discourage the impostor from playing on his victim's superstition and persuading him to jeopardize his life. But when it comes to innocent children, incapable of deciding for themselves, and whose parents are under the duty of providing them with doctors and medicine in case of need, it ought not to be hard to apply an efficient legal remedy. The attorney for the State Board of Health says the board contemplates asking the next Legislature for a modification of the medical practice law that will make it impossible for Doweism to kill young children by neglect. The Legislature ought to make such a law, and make it strong.

The Health Department of Chicago has issued a bulletin setting forth some curious and interesting facts about the effect of rainfall upon certain kinds of disease. The first four months of 1898 were remarkably dry—especially April. The total precipitation for these months was only 4.5 inches, as against 9 72 in normal years. Drs. Reynolds and Reilly have discovered that this fact had a marked effect in decreasing all "water-borne" diseases, such as typhoid fever, while, on the other hand, it greatly increased the "air-borne" diseases, such as scarlet fever, pneumonia, and diphtheria. In the seventeen dry weeks the deaths from water-borne diseases averaged 25.7 per week. In the ensuing nine weeks, which were normally wet, the deaths from these diseases averaged 44.8 per week—an increase of 74 per cent. On the other hand, the air-borne diseases during the dry period caused 191 deaths per week, while during the ensuing nine weeks these deaths fell to a weekly average of 105—a decrease of 45 per cent. The same results are shown by a comparison of the 1899 dry season with the first six months of 1898, which constitued a wet season. During the first six months of the present year there were 317 deaths from scarlet fever, an increase of 750 per cent. over the previous year. But during the 1898 wet season the deaths from typhoid were greater than in 1899 by 82 per cent. The conclusion is that, in Chicago at least, "dry seasons increase the prevalence and fatality of the air-borne diseases and reduce the prevalence and fatality of the water-borne diseases, and vice versa." The pollution of the lake by the flushing of the sewers probably accounts for the effect of rain on the typhoid type of diseases. The completion of the drainage canal will bring an improvement in that regard. As for the "air-borne" diseases, they will have to be combated by keeping the streets and

alleys cleaner, and by improved sanitary precautions in tenements and residences.

Scientific pedagogy and child-study in Chicago's public schools recently received fresh encouragement and impetus when a special committee having charge of the work asked for $2000 to carry it on to the end of the present year. Assurance was received that the School Board would grant the request. Dr. W. S. Christopher, Chairman of the Special Committee, presented a long report of extreme interest in its revelations. This report covered experiments made with children of the Alcott, Burr, Hoyne, and an ungraded school as to their weight, height, endurance power, air, or lung capacity, grip (right and left hand), sight, and hearing capacities. In all about 1400 school children were examined during the last three months of the recent school year. Professor F. W. Smedley of the University of Chicago, and Professor C. Victor Campbell of the public schools conducted the experiments.

After a certain age is reached should the girls and boys of the public schools be separated in their school work and different tasks be assigned to each? This was one of the important questions propounded by Dr. Christopher in his report. The ergograph (the child fatigue-testing machine) showed in experiments with 1400 school children that the girl of sixteen and seventeen had far less endurance power than the boy of the same age, while from six to nine years of age the endurance power of the girl was the same as that of the boy. After nine the girl's endurance decreased, the boy's increased. Naturally, Dr. Christopher asked, should the same burden then be put upon the girl in school after nine years of age as upon the boy after the same period is passed?

In the ergographic test the child was required to lift with its middle finger seven per cent. of its actual weight for ninety seconds. The ergograph registered by tracings the endurance power of the child. Its use immediately revealed the neurotic child, the child of highly strung nerves and irregular capacity for work. Since the apparatus revealed this, it followed that such knowledge given to the teacher or a parent would at once suggest means of aiding the child, strengthening it where weakness existed. The ergograph revealed that endurance comes to the growing child quicker than age, but Dr. Christopher held that its most wonderful and valuable detection was the point which made it plain to him that after a certain age girls should not study with boys, nor carry in the school work the same burdens put upon the opposite sex.

In the test of the lung capacity of the children it was revealed that with advancing age the child's capacity increases, but after nine years the lung capacity of the boy is greater than that of the girl until at sixteen or seventeen there is a wide difference between their strength in this respect. The measurements for height revealed that there is an intimate relation between intellectual capacity and height. There are exceptions to the rule, it was admitted, but as a rule a child with normal height at a given age was of stronger intellectual capacity than a child of less height at the same age. The same rule was found to apply to weight. A child of healthful intellectual capacity was found to be of normal weight for its age. This led Dr. Christopher to suggest that the test for the first admission of children to school should be upon their weight, and not their age, as at present. As to the grading of children in the schools, it might well be done upon physical characteristics as well as intellectual ones. He added: "If our observations could have covered more children, say 5000 or 10,000, we would be in position to formulate a positive rule upon what we have discovered and at the same time we would be able to study and account for exceptions to the rule. It is a duty of the Board of Education to do no physical damage to the children while aiding their intellect. We found that the weights of the children in the first grade varied but little, but at the seventh and eighth grades the variation was great."

Investigation was made of how the strength of the child varied during school hours—at nine quite fair, at ten strong, at eleven decreasing, and at noon gone; a slight revival at one, fairly good at two, and a second decline at three. Closer study along this line would reveal a means of knowing just what the strength capacity of each child was during the hours of work.

Tests were made of the dull, stupid, and unmanageable children of an ungraded school. In every particular but lung capacity they fell below the well-fed and disciplined children of the Alcott School. This led Dr. Christopher to comment that further investigation would reveal how to care for the unmanageable children of the ungraded schools, how to correct them and develop their best parts. He asked that the board authorize the continuance of the work for the remainder of the school year, create a special department for it, choose a supervisor and give him at least two assistants. The cost for carrying on the work the remainder of the year would be $2000. For a full school year such a department, he thought, would not cost over $5000 or $6000.

Dr. Adolph Gehrmann, the Director of the Municipal Laboratory, Chicago Department of Health, has been conducting a series of investigations in regard to the bacillus enteriditis sporogenes (Klein), with a view to determine the presence of this bacterium in Chicago's sewage and of studying its relations to polluted drinking-water. His observations have so far been confined to Chicago River water and sewage taken direct from the sewers, and to the samples of city water-supply collected in making the daily analyses for the Department of Health. From these experiments it appears certain that bacteria of the species described by Klein, or very similar to them are practically always present in the sewage of this city. He is not, however, ready to admit that all of the animals inoculated were killed by the bacillus enteriditis sporogenes, but it is at least clear that the group of bacteria to which this species belongs is present. Klein suggests the use of the Pasteur filter as an aid to isolating the spores from water. But in practical water examination Dr. Gehrmann has found that the extra work and care involved in arranging for filtration in this manner are not repaid by the results.

CORRESPONDENCE.

AN ANOMALOUS CONTINUED FEVER.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—During the past year or two, especially in North Carolina, much has been said in regard to the existence of a type of continued fever different from malarial and typhoid fevers. The subject was before the last meeting of the State Medical Society, and the general opinion was that we find but two forms of fever, *viz.*, malarial and typhoid fevers. This opinion is hard for us, who have met many cases so different from the usual forms of these fevers, and with so very few characteristic cases of malarial or typhoid fever, to believe.

For the past five years in the town of High Point, N. C., with a population of 5000, I have met many cases in which, owing to the lack of the usual symptoms of even mild typhoid fever seen in other localities, I have not been satisfied to accept this diagnosis; and owing to my inability to find any form of the malarial plasmodium, malarial fever was not an acceptable diagnosis; especially when the liberal use of quinin had failed to impress the disease. I have made Widal's test in many cases and have never been able to obtain the characteristic clumping of the bacillus, nor has Dr. Messick of Baltimore, who has kindly made a number of examinations of blood from these patients, succeeded in finding any form of malarial germ. The usual symptoms in these cases are malaise, loss of appetite, tongue slightly coated, temperature from 100° to 103° F. Most patients when first seen have a tendency to constipation, but if allowed to eat solid food, diarrhea develops. The patients generally are free from fever in from three to four weeks, some in two. A very peculiar feature met with is that a large number of cases continue as long as twelve weeks before fever is gone; and many of these patients have gone through three attacks in three successive years. Some of them have refused to go to bed after the first attack, and have apparently progressed as well as, or even better than, those who did. I have seen these patients at all times during the attack, and at no time found them without fever. They have been carefully examined for diseases of the lungs, etc., but with negative results. No age seems to be exempt. I have seen it in children and aged alike. One lady seventy-six years old went through an attack of twelve-weeks' duration. Treatment has no effect on the course of the disease. I have seen but one death among several hundred cases, and in this instance no post-mortem could be obtained.

JAS. S. TURNER.

HIGH POINT, S. C., August 28, 1899.

For Vaginitis.—

℞ Pulv. aluminis
Zinci sulphatis
Sodii biboratis
Acidi carbolici } aa . . . . . ℥ i
Aquæ . . . . . ℥ vi.

M. Sig. A tablespoonful to a quart of lukewarm water as a vaginal injection twice daily.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

GASTRIC ORIGIN OF DERMATOSES—AORTITIS OCCURRING IN MALARIA—TUMOR DUE TO COCCIDIA—A NEW CLASS OF MERCURIAL ANTISEPTICS CALLED EGOLS—IMMUNITY IN THE BLOOD OF THE FETUS TRANSMITTED FROM THAT OF THE MOTHER—HYSTERECTOMY IN PUERPERAL INFECTION—INCREASE OF TYPHOID FEVER IN PARIS—INTRA-ABDOMINAL TENSION IN ASCITES.

AT the Academy of Medicine, Paris, July 18th, ROBIN spoke of the gastric origin of a certain number of dermatoses. He made a study of 422 dyspeptics, of whom 129 presented some skin lesion (acne, eczema, lichen, pruritus, urticaria, hyperidrosis, furunculosis, seborrhea, alopecia, recurrent herpes, and squamous dermatitis). Thirty patients who suffered from simple pruritus or eczema, part of whom did not present any symptoms of stomach trouble, were also carefully examined. There was found in all, however, a certain amount of lactic- or butyric-acid fermentation. The latter acid was found in the gastric contents of 28 of the 30 patients, whereas it was found only 31 times in the gastric contents of 100 hyperesthenics chosen at random. These examinations, therefore, show that there is a constant relation between pruritus and fermentative dyspepsia. The acids seem to act directly upon the skin already modified by improper nutrition. Possibly they are eliminated through the sweat-glands. The dyspepsia should be attacked by appropriate measures and the nutritive disorders should, if possible, be removed. The fluorids should be given for lactic-acid fermentation while for the butyric the double iodid of potassium and cinchonidia, sulphur, iodid of sulphur, etc. Locally, the various well-known remedies may be used with success. Chlorid of sodium and calcium carbonate in the powdered form are helpful. The powder should be dusted on, and then an application should be made of a balsam containing aloes.

On July 25th POTAIN reported the case of a man, aged twenty-five years, whom he had received into the hospital suffering from intermittent attacks of fever which yielded to treatment by quinin. He gave a history of malaria some years previous. There was a marked increase in the area occupied by the arch of the aorta and this symptom subsided with the disappearance of the malarial symptoms. It is possible to look upon this condition as the result of a paresis of infectious origin, but it is by no means an invariable accompaniment of malarial infection. Whether or not it was a true inflammation of the aorta deserving the name of aortitis, it seems probable that such a marked change in the arterial wall cannot take place without a certain modification of the tissues. It seems similar to those lighter degrees of aortitis which have been observed in the course of various infectious maladies.

CORNIL examined a tumor the size of an orange which had developed in a bursa under the right triceps following a blow. Some time afterward similar tumors appeared over the right and left great trochanters and then an other appeared near the left olecranon. They were situated either

in the serous bursæ, subcutaneous or deep, or in the cellular tissue under the muscles, but in no instance did they communicate with the neighboring joint-cavity. To the naked eye these tumors were made up of a great number of pockets of various sizes so that they resembled a sponge. Each of these pockets contained a yellowish-brown fluid, creamy or viscid, in which there were yellow grains of calcareous material. The general location of the tumors, together with the fact that the patient's sixteen-year-old brother presented one of the same nature, led to the inference that they were of parasitic origin. This hypothesis was supported by the demonstration in the tumor substance of numerous giant-cells, but no parasites could be found. Recently, however, Milian, who made an examination of a similar tumor removed from the sole of the foot of a girl aged eight years, found it to contain oviform, refractive, crystalline bodies. Some of these had capsules and stained deeply with hemotoxylin. These observations prove the existence in a man of a variety of tumors of the cellular subcutaneous tissue having peculiar characteristics and produced by coccidia.

At the Academy of Science July 10th, GAUTRELET described the manufacture and characteristics of a class of new antiseptics. They are prepared from the parasulphonal derivatives of the phenols by the action of nitric acid. He found that orthonitroparasulphonic acids under certain circumstances will absorb a quantity of mercury equal to a half atom per atom of the original phenol made use of in the reaction. There result some very stable compounds to which he gave the generic name egol. The egols occur in the form of a reddish-brown powder, soluble in water in all proportions, either hot or cold, but insoluble in concentrated alcohol. The watery solutions of the egols are without odor and have very little taste. They do not coagulate albumen, are not decomposed by organic matters nor are they caustic or irritable. They are not very poisonous. It requires at least two parts in the thousand of the body weight of an animal to produce death, when injected hypodermically. The egols are quickly eliminated from the system. They possess a considerable antiseptic power. In the proportion of four parts to one thousand they stop all bacterial action.

At the session of July 24th BECLERE, CHAMBON, MENARD, and COULOMB described experiments made by them to determine the transmission of immunity from smallpox, from the mother to the child. They found that women who were vaccinated during pregnancy and whose blood-serum was found to possess antivirulent properties with reference to smallpox transmitted this condition to the blood of the fetus. On the other hand, there was no such transmission from those mothers whose serum was not antivirulent whether they were vaccinated during or before pregnancy.

At the Surgical Society, July 26th, TUFFIER spoke of vaginal hysterectomy in acute puerperal infection, an operation which he has performed three times upon patients in whom the lesions of the disease were confined to the uterus. In each instance curetting and various other measures in ordinary use had failed and the patient was considered doomed. One of these women made a rapid recovery; the other two died. A search through medical literature shows that since the operation was first performed by Schultze in 1886 there have been thirty-three hysterectomies performed for infection. In twenty cases it was followed by death; in thirteen by recovery. Vaginal hysterectomy under such circumstances presents great difficulties. On account of the softness of the uterine walls, it is almost impossible for the operator to make out the exact limits of that organ.

At the Medical Society of the Hospitals, July 21st, NETTER spoke of the marked increase in the number of patients of typhoid fever at the Trousseau Hospital since the beginning of the year. As the patients were all children the infection most likely took place in their homes or their immediate vicinity. He expressed the opinion that the contamination of the drinking-water at its source was not likely. It was more probable that it became foul either in the reservoirs or in the pipes. It was also necessary in determining the source of infection to consider the increased amount of digging in the subsoil which had taken place.

At the Biological Society, July 15th, PITRES spoke of the intra-abdominal tension in ascites. This he usually found to be less than twenty millimeters of mercury. The initial pressure when the abdomen is tapped is not directly proportional to the quantity of liquid accumulated in the peritoneal cavity. The final pressure after evacuation of the ascitic fluid ordinarily remains positive. Sometimes it sinks to zero but it never falls below that point, probably on account of the elasticity of the abdominal walls and the compressibility of the gas contained in the intestines. The total value of tapping, that is to say, the difference between the pressure in the beginning and at the end of ascites, is never very great. It was found to range from three to nineteen millimeters of mercury, but it rarely surpassed fifteen millimeters.

SOCIETY PROCEEDINGS.

ROCKY MOUNTAIN INTERSTATE MEDICAL ASSOCIATION.

First Annual Meeting, Held at Salt Lake City, Utah, July 25, and 26, 1899.

AFTER the opening of the meeting by the President, DR. CHARLES PINCKNEY HOUGH, and an address of welcome by the HON. HEBER M. WELLS, Governor of Utah, DR. SALATHIEL EWING of Salt Lake City read a paper, entitled

THE MEDICO-LEGAL SUPERVISION OF PROSTITUTION.

He urged the dangers of syphilis and gonorrhea, and said that since prostitution cannot be eradicated it should be supervised so as to lessen the ravages of these diseases. The attitude of the police authorities toward the class of prostitutes was condemned. Funds obtained by the licensing of prostitutes could be rightly employed for the limitation of the diseases in question, by the support of reformatory institutions and hospitals. Weekly inspection

should be practised, and strict quarantine and hospital treatment of those diseased carried out. While he entertained the highest respect for the clergy, he thought that in regard to this matter, they had generally taken a wrong attitude.

TREATMENT OF CHOREA.

DR. S. D. HOPKINS of Denver read a paper with this title. He had obtained satisfactory results by the administration of antipyrin according to the method of Dr. J. T. Eskridge. The drug was given in increasing doses, beginning with 1 grain for each year of the child's age and increasing 1 grain each day. In the mildest cases the child was permitted to sit up a part of the day and the antipyrin was only given in the evening. In severe cases absolute rest in bed was required and the dose of antipyrin was given three times a day. As soon as the choreic movements ceased, or greatly diminished, the drug was stopped. Fowler's solution and iron were given until two or three weeks after the cure appeared to be complete. In giving such doses of antipyrin, 20 grains, three times a day to a child eight years old, for instance, certain precautions must be observed. The child must be kept in bed and carefully watched. If there is heart disease, or fever, antipyrin should not be given. The speaker had seen no bad results from its use, and in the nineteen cases upon which his paper was based had obtained rapid cures.

HYDATID MOLE.

DR. S. G. KAHN of Leadville reported a case of hydatidiform mole or cystic degeneration of the chorion from his own practice, with three other hitherto unpublished cases from the practice of others. He had sent letters of inquiry to 400 physicians, from whom he received 78 replies, reporting 12 cases in all. This illustrates the rarity of the disease, and the impossibility of obtaining any valuable statistics. The results of inquiries with regard to factors of causation had been negative.

HEMOPHILIA.

Two cases of this affection were reported by DR. A. A. KERR of Salt Lake City. One was in a boy ten years of age, who bled from an abrasion of the gum. His mother's brother had died of hemorrhage following an operation. The parents were healthy, as were two of their children. Two other children had been bleeders, dying from hemorrhages at the age of twelve days and six months, respectively. The second case was that of a baby ten months old, whose family history was negative.

The president's address, delivered at the opening of the afternoon session of the first day, emphasized the need for closer association among the physicians of the inter-mountain States. They have many themes of common interest, and are too far removed to attend the regular meetings of the American Medical Association when held at the East. They can meet each other once a year at some place in the inter-mountain region with great advantage. He advocated proper regulation of the practice of medicine, but thought that medical laws should be so modified as to permit a physician of established fitness to practise in any State without having to pass an examination which some of the examiners might have been able to pass only when they first graduated. If membership in the American Medical Association were not a sufficient guarantee of fitness to practise anywhere, that organization ought to be reorganized.

USE OF THE HEMATOKRIT.

DR. JUDSON DALAND of Philadelphia urged the clinical value of blood examinations with this instrument. He pointed out the great amount of time required to make a careful blood-count, the importance of duplicating it to obtain reliable data, and the great probability of serious inaccuracy. The hematokrit does not exactly replace the blood-count, but the ease with which the volumetric estimate of the corpuscles can be made gives it a greater clinical value. More time is required to keep the apparatus clean and in order, but with an assistant the volumetric estimate could be made in three minutes. A diluting fluid to prevent coagulation is not needed unless the tendency to coagulate is very great, but rapid manipulations are necessary to secure accurate results. The speaker revolves the tube 10,000 times per minute for two minutes. This gives 50 per cent. as the volume of corpuscles in normal blood. By multiplying by two the percentage of corpuscles as compared with normal blood taken as 100 per cent., is obtained. For comparison with blood-counts the 100 per cent. so obtained may be taken as representing 5,000,000 corpuscles to the cubic millimeter.

FIBROID PHTHISIS INDUCED BY QUARTZ DUST.

DR. W. W. BETTS of Salt Lake City called attention to the terrible mortality in connection with lung trouble induced by the dust of the De La Mar mill, where certain gold-bearing ores are reduced to a fine powder and the air is filled with an impalpable dust. It was stated that all who had worked in these mills from seven to nine months, previous to January, 1898, are now dead. The total deaths up to March 1st, of the present year he believed to be 166. He reported 14 cases in tabular form, occurring in men from twenty to forty-three years of age, who previously were healthy. One was able to work 23 months and had lived 2 years afterward. Another had worked but 3 months and died 7 months later. The average time they were able to continue working was 13 months and the average time they lived after leaving the mill was 10 months. The trouble began with attacks of acute bronchitis with inflammation of all the exposed mucous membranes. Later there was loss of appetite and loss of weight, rapid respiration and general malaise. The pulse ranged from 90 to 120, and became weak and intermittent, and in the late stages the temperature rose to 102° or 104°F. Two autopsies showed great disease of the pericardium, the lung tissue was excessively firm with great increase of connective tissue, and air-cells partly obliterated. On chemical analysis the lung tissue was found to contain 2.8 per cent. of silica, and the bronchial glands 3.8 per cent. There is tellurium in the ore but no arsenic.

DR. P. E. JONES of Salt Lake City thought the disease

in question is the same as that which affects the employees in cutlery-works and grindstone quarries, and to which grain-shovelers are especially liable. So long as life is less valuable than gold will the sacrifice continue.

Dr. F. Clift of St. George, Utah, said all the men who left St. George to work in that mill came back with this trouble. Three of them are still alive but on the way to follow their fellows. There is not the slightest doubt that all who now work in the mill are likewise doomed.

Dr. Mayo, who had been surgeon for the De La Mar Company for four years, had carefully investigated the subject with the aid of the Company's records, and had found that only 34 had died who had been employed during that time. He believed a similar mortality would be discovered among the workers in other mills handling similar ores. When the disease is once contracted it probably is necessarily fatal. Since the attention of the company had been called to the matter extensive changes had been made in the mills. Fans, hoods, and ventilators have been put in and respirators supplied to the men with instructions about using them. Recently an inspector of the New York Life Insurance Company had reported that the workers in these mills are in no more danger than the workers in the flour-mills of Minneapolis.

REPEATED EXTRA-UTERINE PREGNANCIES.

Dr. C. K. Fleming of Denver reported two cases. The first patient, after marked evidence of rupture of the sac, had presented the symptoms of sepsis and was treated three weeks for typhoid fever before Dr. Fleming saw her. She promptly recovered after the evacuation of a pelvic abscess. After eighteen months of regular menstruation she had the same train of symptoms but refused operation and slowly recovered without it. The second patient was operated on shortly after the occurrence of symptoms of tubal rupture, and a pelvic hematocele found. One year later similar symptoms appeared, and at operation the right tube was found ruptured and containing a large blood-clot. This patient also recovered. There was no history pointing to previous disease in either case.

CARCINOMA OF THE UTERUS.

Dr. W. W. Grant of Denver pointed out that the universal increase in the mortality from cancer makes its causation and prevention of practical interest. The theory of a specific parasite seems on the whole to be gaining ground. Certain it is that cancer occurs chiefly in parts most exposed to both traumatism and infection. On early diagnosis rests the only chance of cure. He favored frequent examinations of women near the menopause, and microscopic examinations of suspicious lesions. In women who have borne children all lacerations of the cervix should be repaired at forty years of age.

TREATMENT OF ACUTE CONJUNCTIVITIS.

Dr. Edward Jackson of Denver said that acute conjunctivitis includes, in addition to the effects of eye-strain and local irritants, at least five specific infections; and that successful treatment depends on the careful discrimination between the different classes of cases. Eye-strain is always to be thought of and eliminated. In all forms of conjunctival infection, complete cleansing at sufficiently short intervals is of the greatest importance. Protargol is to be employed for purulent conjunctivitis, with a few applications of a strong solution of silver nitrate in bad cases. Mydriatics and cocain should not be prescribed for acute conjunctivitis, because they are more likely to do harm than good. To secure the greatest cleanliness of the conjunctiva and to limit the dangers of infection all forms of poultice, bandage and compress should be carefully avoided.

POINTS IN EYE-WORK.

Dr. R. F. LeMond spoke of the important relations between eye lesions and brain disease. He believes the pathological changes often found in the astigmatic eye are for the purpose of relieving the strain that would otherwise come upon the brain.

IMPROVED ARTIFICIAL EYES.

Dr. G. Melville Black of Denver, in a paper on "Ocular Prothesis," called attention to the recent suggestion of Snellen regarding different forms of artificial eyes. The shell heretofore generally used is designed to be worn over a shrunken eyeball, and not to fill up the orbit after an enucleation. There are also needed a concavoconvex form of artificial eye to be worn over a small stump and a double convex form to properly occupy the orbit after enucleation, Artificial eyes of the latter forms not being obtainable yet in this country the speaker had resorted to the expedient of filling in the cavity of the ordinary shell with a preparation of wax (Gilbert's temporary stopping) used by dentists. This had proven quite satisfactory in preventing the unsightly sinking of the artificial eye, the accumulation of discharges behind it, and irritation of the conjunctiva by the formation of a vacuum beneath the shell.

OPERATION FOR GALL-STONES.

Dr. I. B. Perkins of Denver reported three cases of distention, inflammation, and sepsis arising from obstruction of the ducts by gall-stones. The patients were cured by operation. The greater frequency of gall-stones among women (more than two to one) is probably due to constriction of the abdomen by customary styles of dress, as well as to a more sedentary life. The speaker had performed the operation of incision, removal of the contents of the gall-bladder, and drainage, with closure of the opening subsequently. He believed the operation of immediate closure of the gall-bladder and dropping it back into the abdomen is rarely applicable and that it ought not to be called the "Ideal" operation. Of the stitches passing through the abdominal wall to close the incision, those opposite the opening into the gall-bladder are made to enter its wall and then emerge from it again like a Lembert suture before crossing the incision. Two or three of these stitches at the center of the incision are left untied, and the gaping wound packed with gauze to ensure free drainage. When drainage is no longer needed the edges of the abdominal wound are slightly freshened and the stitches tied without the need of anesthesia. The inversion of the edges of the incision in the gall-bladder secures prompt union.

DR. JOHN B. ROBERTS of Philadelphia was favorably impressed with Dr. Perkins' plan of closing the wound. When a gall-stone is impacted in the common duct, however, it would be extremely difficult to dislodge it by any such operation. He suggested that the duct might be followed down to its entrance into the duodenum and an opening made in the duodenum opposite this point. A probe could then be introduced through the mouth of the duct and the obstructing stone pushed back into the gall-bladder and removed. The dilatation of the duct above the point of obstruction would commonly render the dislodgment of the obstruction not difficult.

APPENDICITIS WITH ANOMALOUS POSITION OF THE APPENDIX.

DR. A. J. HOSMER of Salt Lake City exhibited a boy operated on for appendicitis in whom through the usual incision in the right iliac region, no trace of the appendix or head of the colon could be found. A mass of exudate, however, could be felt far up and to the right. A median incision was made and the gangrenous appendix removed from the midst of this mass. In this case the pain was referred to the left side.

SUPRARENAL EXTRACT IN SURGERY OF THE EAR, NOSE, AND THROAT.

DR. W. W. BULETTE of Pueblo reported an experience with this agent in 201 cases, 137 of nasal, 46 of throat, and 18 of ear disease. It produces anemia of the tissues, reduces swelling and prevents hemorrhage that would otherwise be very troublesome by obscuring the field of operation. It also aids in prolonging local anesthesia, which is cut short by the hemorrhage washing away the cocain. With its help operations can be performed without pain and loss of blood. There are no unpleasant effects and there is little secondary hemorrhage. Since employing it, cases presenting symptoms of cocain poisoning have been fewer. It reduces to a minimum the patient's dread of operation.

THE BOTTINI OPERATION FOR HYPERTROPHY OF THE PROSTATE.

DR. LEONARD FREEMAN of Denver reported eight cases of enlarged prostate in which Bottini's operation was performed. The instrument consists of a platinum galvanocautery knife arranged like the male blade of a lithotrite. Any general burning of tissue in contact with the instrument is prevented by a stream of ice-water circulating through it. The operation causes little after-pain or bleeding. Five of the eight patients were practically cured. One patient improved at first and still has no residual urine, but again suffers from pain and frequent urination as badly as ever, and cancer is now suspected. The speaker believes this the best operation yet proposed for enlarged prostate. Few men submit cheerfully to castration or vasectomy. Bottini's operation causes no external wound. It can usually be performed under local anesthesia. In his cases general anesthesia was used but once. The burned surfaces are practically sealed against absorption. The benefit is immediate. There are few relapses. The patient can move about within a day or two. The mortality of the operation (generally 5 per cent.) is less than by other methods of operation.

DISEASES OF THE MASTOID.

DR. C. K. COLE of Helena, reported four cases of mastoid disease illustrative of sixteen that he had seen during the last twenty months. Such cases are essentially surgical. He advocated thorough opening of the mastoid and irrigation with not less than 2 to 4 quarts of hot sterilized water or antiseptic solution. The periosteal incision may sometimes be useful in young patients. In extreme cases multiple openings are to be advised.

TOXIC CAUSES OF INSANITY.

DR. HUBERT WORK of Pueblo called attention to the generation within the body of poisons capable of causing mental alienation. Loss of weight and anorexia occur so constantly in connection with certain psychoses as to suggest at least a common cause. Some of the most distressing symptoms of dyspepsia are mental. It is certain that insanities do result from prolonged digestive disturbances. Auto-infection from the alimentary canal may alone be the cause in many cases. He reported four illustrative cases in which treatment directed to the source of the toxic influence brought about a cure of the mental symptoms. In the first, a case of digestive disturbances, a cure was accomplished in three months. The second patient, ill with rheumatism was cured in eighteen months. The third was a case of chronic cystitis and the patient was cured in four months. The fourth patient, whose illness was due to hepatic derangement, was cured in two months. In no disease is proper medical treatment more needed at the beginning than in insanity.

AUTO-INTOXICATION AND BLOOD MORPHOLOGY IN RELATION TO OPERATIONS.

DR. P. S. KEOGH of Salt Lake City discussed the bearing of these conditions on the preparation of a patient for a surgical operation. The older surgeons well knew that complications followed less frequently when the patient had been prepared for operation by catharsis. Symptoms of indigestion and gastro-intestinal disease should always be carefully looked for. Examination of the urine might reveal a deficient elimination of solids. General anesthetics increase the danger from auto-intoxication. The examination of the blood, particularly with reference to the percentage of oxyhemoglobin and the condition of leucocytosis, gives very important evidence regarding the patient's power of resistance.

CASES OF INFECTION BY THE BACTERIUM COLI.

DR. J. N. HALL of Denver stated that this organism, at first regarded as only a harmless inhabitant of the alimentary canal, is now known to be one of the most important pathogenic bacteria. Probably the name is now applied to a whole group of bacteria representing varying degrees of virulence and not to a single species. He reported two fatal cases of infection, both patients being males. The first patient, after twenty-four-hours' retention of urine, presented great numbers of colon bacilli.

Pleuritis, bronchopneumonia, pericarditis, a purpuric eruption, pyelitis, and perinephritic inflammation ensued. In the case of the second patient there was a purpuric eruption and abscesses were scattered over the body. The bladder was distended with acid, foul-smelling urine, containing sugar and loaded with bacilli. Gas was generated within the bladder. The spleen and liver were found to be septic. The kidneys were also involved and a large abscess was found behind the sternum.

THE EARLY DIAGNOSIS OF TUBERCULOSIS.

DR. A. M. HOLMES of Denver said that there are early evidences of this disease, and if these are heeded recovery may be brought about. Loss of appetite and weight, gastric disturbances, dyspnea, and persistent cough should lead to careful and repeated examinations. The importance of the early examination of the sputum he thought has been over-rated. If the bacilli are found, the evidence would be conclusive, but they may exist in concealed foci of infection a long time before making their way into the sputum. He regarded subnormal morning temperature and "cog-wheel" respiration as important symptoms; but not hemorrhage. Early in the disease the study of the blood is more important than the study of the sputum, especially the examination of stained blood-films with a differential count. There is no excuse for delay in the diagnosis of tuberculosis. A certain test exists in the reaction produced by tuberculin. The speaker employs at first an injection of 1 milligram, and if no reaction follows this three days later 3 milligrams are injected, and if this produces no effect, 5 milligrams. The injection should be made in the evening and the reaction commonly occurs six to twelve hours later.

The following officers were elected for the ensuing year: President, Charles K. Cole of Helena, Montana; vice-presidents, Leonard Freeman of Denver and R. H. Reed of Wyoming; treasurer, Charles G. Plummer of Salt Lake City; recording secretary, Donald Campbell of Butte, Montana; corresponding secretary, S. D. Hopkins of Denver. Drs. Judson Daland and John P. Roberts of Philadelphia were elected Honorary Members. The place selected for the next meeting was Butte, Montana, and the time the last week of August, 1900.

REVIEWS.

A TREATISE ON HUMAN PHYSIOLOGY. For the Use of Students and Practitioners of Medicine. By HENRY C. CHAPMAN, M.D., Professor of the Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. New (2d) edition thoroughly revised. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1899.

THE revision of this work as it formerly appeared has been mainly in the way of numerous additions and subtractions, rather than any comprehensive alteration in its general character. The statement in the author's preface that "there is a want felt by students and practitioners of medicine for a systematic work, based upon comparative and pathological anatomy, *clinical medicine* . . . as well as upon experimental research," might lead one to hope that the author, by introducing frequent comparisons with phenomena presenting conditions other than those strictly physiological, had created for his work an acceptability which, in this feature, such standard and thoroughly comprehensive treatises as Foster's does not possess. In this hope the purchaser of Dr. Chapman's book would be disappointed. It is a text-book of pure physiology.

While the work presents no unusual features it is a very scholarly presentation of the essential data of physiology, carefully arranged and logically set forth. The nervous system is considered at great length and in great detail. We do not condemn the author for thus occupying so large a part of his book, except in so far as it is unwarrantably disproportionate to the space devoted to other equally important subjects. The urine, and especially its chemistry, is in particular too briefly disposed of.

The appearance of the book is excellent; the illustrations are numerous and carefully executed.

A MANUAL OF SURGICAL TREATMENT. By W. WATSON CHEYNE, M.D., F.R.C.S., F.R.S., Professor of Surgery in King's College, and Surgeon to King's College Hospital, London; and F. F. BURGHARD, M.D., M.S. (London), F.R.C.S., Teacher of Practical Surgery and Surgeon to King's College Hospital, London. Vol. I. Philadelphia and New York: Lea Brothers & Co., 1899.

THERE is no question that the authors have given a work to the profession which was needed. The preliminary and after-treatment of surgical patients has assumed an importance which no operator can afford to neglect. These are as essential to the recovery of a patient from a surgical operation as the operative measures themselves. Hospital internes and operating surgeons are the only ones who fully realize this important factor in the treatment of surgical diseases. For such physicians as operate in centers removed from hospital facilities or who operate only occasionally, for the general practitioner who is called upon to do surgical work, and above all, for the medical student, a work of this kind is indispensable. It can be read with profit, too, by every one who is interested in surgical procedures.

In the first volume the authors deal largely with general principles. They discuss inflammation, acute suppuration, ulceration, and gangrene, in the order named. A lucid, practical chapter on anesthesia by Dr. J. Frederick Silk follows, which is a splendid review of the subject. The general treatment of wounds of surgical and accidental etiology is next considered with very clear and practical articles on hemorrhage, shock, and syncope. The constitutional diseases are fully considered in succeeding chapters and the volume closes with a discussion of the varieties of tumors and their treatment.

The book differs from all other works on surgery in the English language by confining itself strictly to practical considerations. There is no theory of disease or its causation, nothing but the treatment of patients suffering from surgical disease once the diagnosis is made. The treatment of patients before and after operation, includ-

ing anesthesia and the conduct of the treatment in the face of any of the emergencies of surgical practice, are fully set forth. The vast material on which the authors have drawn for their deductions gives the book an unusual value. It is a work of the highest worth from literary and scientific standpoints and is of corresponding value to every member of the profession. It is one of the few books of which one can truthfully say that "it should be found on the desk of every physician."

The book-making is above the average, but some of the illustrations lack in clearness. The succeeding volumes will be awaited with interest.

STEREOSKOPISCH-PHOTOGRAPHISCHER ATLAS DER PATHOLOGISCHEN ANATOMIE DES HERZENS UND DER GRÖSSEREN BLUTGEFASSEN, with fifty photographic reproductions of original impressions. By DR. G. SCHMORL. Munich: J. F. Lehman, 1899.

AS its name indicates, this is a series of double photographs mounted two by two on cards and meant to be viewed with the stereoscope, which does actually in this case produce a very illusive sense of solidity in the pictures. The cards are done up neatly in a cloth-bound box and would be an excellent means of demonstrating the pathology of the heart where actual specimens could not easily be obtained. The idea of stereoscopic views in pathology is new and is well put into effect in this case.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures on Medicine, Surgery, Neurology, Gynecology, Obstetrics, etc., with specially prepared articles on Treatment and Drugs, by Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain and Canada. Edited by JUDSON DALAND. Vol. II. Ninth series. Philadelphia: J. B. Lippincott Co., 1899.

THE July number of the *International Clinics* thoroughly maintains the reputation of this well-known quarterly, especially as regards the contributions from foreign clinicians. We note the names of Fournier, Grauchier, Jaccond, and Brocq of Paris, those of Von Bergman, König, Frankel, Grawitz, Lassar, Gutzman and Holländer of Berlin, and Kovacs of Vienna among the contributors to this volume. The variety of matter is excellent and the clinics have been chosen with good judgment and with an eye to their practical interest for the general practitioner in the varied problems that come up for his solution from day to day.

Brocq of Paris, in his article on the treatment of carbuncles and furunculosis details his experience with brewer's yeast in aborting carbuncles and in preventing recurrent furuncles. He had occasion to try the remedy on himself for carbuncles with which he had been affected nearly every year. It proved an excellent remedy, aborting a carbuncle that had begun to develop and acting as a prophylactic against further attacks. He has had the same success with patients who have had at least one carbuncle a year for many years, in one case over thirty years. The same result has followed its use in persistent furunculosis, and Brocq considers that yeast (for he has found the ordinary cake yeast of the shops almost as effective as brewers' yeast), is as much a specific for cutaneous suppurative conditions as mercury for syphilis, or quinin for malaria.

Dr. Hollander of Berlin presents a method for using superheated air as a hemostatic and as a cauterizing agent. The method commends itself by its simplicity, a coiled metal tube and a Bunsen-burner being the only apparatus necessary. Dr. Holländer has found it useful, especially in arresting parenchymatous bleeding, as in resection of the liver for cancer. He has employed superheated air as a therapeutic agent for inveterate cases of lupus vulgaris, and judging from the photographs of patients before and after treatment, which are given, the results have been most encouraging. Professor Ernest Grawitz presents an excellent practical review of the present position of German medical thought as to pernicious anemia. Professor König of Berlin has an interesting clinical lecture on wounds in the cardiac region and strictures of the rectum. A striking position taken by König with regard to rectal strictures is that the form of stricture which in women sometimes breaks down and causes a good deal of destruction of tissue, is really gonorrheal in origin and not syphilitic as has been supposed.

Dr. Gutzmann of Berlin gives an excellent presentation of the causes, the forms, and the treatment of stuttering. We do not think that the subject has ever been put so clearly and completely in so few pages.

The present volume is not as well printed as its predecessor. The typographic standard has been very high in the past. The illustrations in the present number are quite as good as usual, but the printing leaves something to be desired.

THE MINERAL WATERS OF THE UNITED STATES AND THEIR THERAPEUTIC USES. By JAMES K. CROOK, A.M., M.D., Adjunct Professor of Clinical Medicine and Physical Diagnosis, New York Post-Graduate School. Philadelphia and New York: Lea Brothers & Co., 1899.

THERE is undoubtedly a distinct field of usefulness for a work of this character. The fact that this is the only one dealing with this subject gives it a unique place in medical literatnre. The book is divided into two parts. The first deals with the history and origin of mineral springs, the various classifications, an analysis of the components of springs in general, the therapeutic uses of mineral waters, and two very excellent chapters on baths, and douches and their employment. In the second part the author takes up in alphabetical order according to States, the mineral springs they contain. Further he gives an analysis of the waters of each spring derived from various sources, the means of access to every resort, and the special adaptability of the different waters to disease and the proper therapeutic employment of each kind of water. The various bath resorts are fully and accurately described as well.

There is a vast fund of information within the covers of the book and while the authors must have been industrious he has made an effort to be accurate also. As far as we are able to judge from numerous comparisons he

has been successful in this particular too. This is a work which is certain to be popular for the information which most physicians have on the subject is very meager and is based on hearsay. Too often, certain baths or springs are recommended to patients without the slightest knowledge on the part of the recommending physician. In this volume the author has done for America what the Weber's have done for Europe. The book-making is beyond reproach.

THE MECHANICS OF SURGERY, COMPRISING DETAILED DESCRIPTIONS, ILLUSTRATIONS AND LISTS OF INSTRUMENTS, APPLIANCES AND FURNITURE NECESSARY IN MODERN SURGICAL ART. By CHARLES TRUAX, Chicago, 1899.

THIS is a large volume containing over 1000 pages of well printed and profusely illustrated matter. The author presents reliable and detailed information on the subject of medical and surgical instruments and appliances. It is not a price-list catalogue, but illustrates and describes such mechanical appliances as research and experience have proved best adapted to the purposes for which they are designed. It is full of valuable information and suggestion, especially for those members of the profession who do not have ready access to surgical instrument shops.

THE THROAT AND NOSE AND THEIR DISEASES. By LENNOX BROWNE, F.R.C.S.E., Senior Surgeon to the Central London Throat, Nose, and Ear Hospital. Assisted in Anatomy by MAYO COLLIER, M.S., F.R.C.S.; in Nervous Diseases by JAMES CAGNEY, M.D.; in Histopathology by WYATT WINGRAVE, M.R.C.S. Fifth edition. Illustrated mostly from designs by the author. London: Bailliere, Tindall & Cox, 1899.

THE study of this volume of almost a thousand pages is most satisfactory. Although the distinguished author has allied himself with others for the elaboration of technical subjects, the work stands as a monument to his learning, his experience, and his industry. While it is a work which can with profit be read and digested by every physician who is in the habit of treating diseases of the nose and throat, it is, and we think, will remain for a long time, a standard authority on the special subject with which it deals.

The anatomy and physiology of the larynx, pharynx, and nose are first considered; then follow chapters on the examination of these organs, general symptomatology, and an exhaustive chapter on treatment. The general etiology and pathology of throat diseases are next discussed, an entire chapter being devoted to the bacteriology of the subject. The pathology of the nose is similarly treated, and then follow chapters dealing successively with the individual diseases of the nose and throat. The final chapters are given over to the diseases of the accessory cavities of the nose and aural maledies associated with nasopharyngeal disease.

It is surprising to note that in the chapter devoted to diphtheria the author, while not directly opposing the use of antitoxin, does not view its use as a specific as we in this country are accustomed to regard it. He believes that the value of the antitoxic serum depends more upon its dynamic properties as a serum that upon the antitoxin which it contains. The author has thus, at least, made a step forward during the past two years.

The whole subject of pharyngeal and nasal diseases is illumined by this work and we regret that it is impossible to give it more extended review. In closing we would note that American writers are freely cited throughout the book.

The illustrations are more than usually elaborate and aid decidedly in giving the book a distinguishing mark. As a text-book we know no equal in the English language.

THERAPEUTIC HINTS.

Painless Injections of Mercurials.—BAZIN states that if pure guaiacol be incorporated with the oil used as a medium for intramuscular injections of mercurials the process is rendered practically painless. He gives this formula, the guaiacol being employed in the proportion of three per cent.

℞	Hydrarg. iod. rubr.	gr. viii
	Guaiacol pur.	*m.* xlv
	Ol. olivæ ster.	ʒ iii.

M. Sig. For hypodermic use.

The injections are practised daily or every other day, 30 minims representing approximately gr. ⅙ of the biniodid. The needle is inserted perpendicularly to the skin, pushed in to its full length, and the liquid injected very slowly, the buttocks being chosen preferably for the operation.

For Alopecia Areata.—BALZER praises the efficacy of lactic acid in overcoming this disease. It is applied on a bit of absorbent cotton to the affected areas, with light friction until the skin appears reddened. This is repeated daily, but if the irritation produced become too intense, possibly causing the formation of crusts, the treatment should be suspended and irritation subdued by applications of boric vaselin. As soon as possible the lactic-acid treatment should be resumed. Antisepsis of the scalp is secured by bathing with Van Swieten solution. New hair should appear in two to three weeks and a complete cure be anticipated in two to three months. When the beard is affected the process of cure is more prolonged.

For the Pruritus of Senility.—

℞	Sodii bromidi } aa Sodii salicyl. }		ʒ iv
	Sodii iodi } aa Sodii acetat. }		ʒ ii
	Inf. gentianæ		℥ ii.

M. Sig. One teaspoonful in water after meals.

Locally: Bathing with a hot solution of corrosive sublimate, 1–2000; of acetic acid, 1 per cent., or of potassium permanganate, 2 per cent., or stronger. This is followed by inunction with:

℞	Menthol	gr. viii
	Guaiacol	ʒ iss
	Ac. salicyl.	ʒ ss
	Lanolini	℥ i.

M. Sig. External use.—*Lavallée.*

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ORIGINAL ARTICLES.

ROENTGEN-RAY EXAMINATIONS IN INCIPIENT PULMONARY TUBERCULOSIS.[1]

BY FRANCIS H. WILLIAMS, M.D.,
OF BOSTON, MASS.

DURING the past three years I have seen about 275 cases of pulmonary tuberculosis, and I have examined about 165 of the patients by means of the X-rays.[2] In making these X-ray examinations my attention was early directed to the darkened apex and the shortened excursion of the diaphragm, which were signs common to nearly all of these cases, and it seemed to me that these appearances warranted further study with reference to their usefulness in detecting pulmonary tuberculosis in the incipient stage.[3] It is this part of my work with the X rays that I am to have the pleasure of laying before you this morning, or, rather, such portions of it as may be presented in the few minutes at my disposal. I will first ask your attention to a few incipient cases, in choosing which I have taken only those in which the diagnosis was confirmed by finding the tubercle bacilli or by reaction to the tuberculin test. I have divided these patients, for convenience, into two groups: First, those with slight physical signs, but no râles except in Case II. Second, those without physical signs—that is, whose lungs had been found normal by auscultation and percussion. In some of these an X-ray examination was made for the purpose of determining the size of the heart, and not because the lungs were suspected, but during the course of this examination the lungs were found to be abnormal. The patients in both groups were all hospital patients.

First Group.—I described three cases in the paper presented to this Association at the last meeting, which were sufficiently typical of the first group, namely, that with slight physical signs, in which the X-ray examination was of assistance. I will cite here five more such cases to add to the evidence brought before you at that time.

CASE I.—Michael H., aged thirty-six years. Entered March 7, 1898, with acute articular rheumatism, which began five weeks before entrance, with swelling in the knee, which extended to one hip, then to the other, then to the left ankle. Ten days before entrance both hands became red, swollen, and painful; five days before started again in the knee, right hip, right hand and shoulder. Physical examination of the lungs showed good resonance and respiration throughout. On March 10th the left wrist was red and painful. On March 18th this condition improved under salicylates. Practically well.

March 8th. X-ray Examination.—This was made to determine the size of the heart, as I was then making X-ray examinations of this organ in all cases of acute rheumatism. The apex of the right lung was found to be shaded as compared with the left lung; excursion of the diaphragm on the right side two and one-quarter inches; on the left side three and one quarter inches.

After this examination auscultation and percussion showed slight dulness on the right side from the apex to the second rib; tactile fremitus was increased, expiration prolonged.

14th. Second X-ray examination pointed to the right lung as the seat of the trouble, as before.

One milligram of tuberculin given, later two milligrams given, finally four given. Patient reacted to this last dose. Discharged April 7, 1898.

In May, 1899, he returned to the out-patient department, and Dr. Bartol kindly reported to me that he found no physical signs in the lungs.

The following case is inserted because I was able to watch its progress as it ran nearly the whole of its very acute course in four months, and largely in my service. It, as well as the other cases that I have seen, shows that in acute tuberculosis we may be warned of the rapid progress of the disease by making two or three X ray examinations at intervals of a week or so, and thus have another means of recognizing the serious character of the attack.

CASE II.—Sarah H., aged twenty-three years. Entered the Boston City Hospital, April 20, 1896, with acute articular rheumatism, first in the right ankle, then in the left ankle and right elbow. She had had cough, with bloody expectoration, for two weeks. The respiration and resonance in both lungs were good throughout. Heart by percussion seemed enlarged to the right.

On April 24th an *X-ray examination* was made to determine the size of the heart. This showed that the heart was not enlarged to the right, but there were signs of tuberculosis on the left side, namely, the left apex was shaded and the excursion of the diaphragm on

[1] Read at the sixteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

[2] The static machine which I now use for X-ray examinations has four revolving plates six feet in diameter and four fixed plates six feet four inches in diameter.

[3] In this paper I have presented more fully questions which I first brought out at medical meetings in 1896 and published in the *Medical and Surgical Reports of the Boston City Hospital*, January, 1897.

the left side was two inches, while on the right side the apex was clear and the excursion of the diaphragm was two and five-eighths inches.

Physical examination, after X-ray examination, showed many cracking râles over lower part of left front and axilla.

On May 6th nearly the whole of the left lung was shaded, and the excursion of the diaphragm was shortened by one-half an inch and moved one and one-half inches only. The apex of the right lung was now also darker than normal, and the excursion of the diaphragm was two and one-eighth inches. On May 12th the left lung was still darker than it had been, and the excursion of the diaphragm was reduced to one inch. Patient up and about. On May 17th the excursion of the diaphragm was reduced still further, namely, to one-half inch on the left side and to one and one-half inches on the right side.

The appearances seen in the X-ray examination were confirmed by finding tubercle bacilli. Patient died in July, 1898.

Case III.—Tofilus K., aged thirty-five years. Entered the hospital, January 11, 1899, with acute articular rheumatism. Physical examination: Increase of vocal resonance and fremitus, and marked whispered bronchophony in the right apex behind to an inch below the spine of the scapula. Over this area respiration was roughened and expiration much prolonged, but there were no râles and no dulness.

X-ray examination was made in order to determine the size of the heart. Upper half of the right lung was shaded; excursion of the diaphragm on this side one and one-half inches; on left side two inches. Tuberculin was given; reaction. Temperature 102° F.

Case IV.—Dennis H. F., aged twenty-eight years, entered the hospital, September 6, 1898, with malaria. While in the hospital he had some cough and bloody expectoration. Physical examination: Fremitus increased over the whole of the right side, especially at the apex; voice sounds also more marked on right side; no râles heard anywhere. No tubercle bacilli found in the sputa

X-ray Examination.—Left side less clear than right. Excursion of the diaphragm on the left side five-eights of an inch, on the right side one and five-eighths inches. Three milligrams of tuberculin were given after the temperature had been running from normal to 99° F. for some time. Temperature rose in eighteen hours to 103° F.

Case V.—Sadie McD., aged twenty-four years. Entered the hospital, April 6, 1898. Question of typhoid fever; temperature varied from 100° to 104° F. Was irregular. Physical examination of the lungs at entrance: Resonance somewhat diminished over fronts of both chests below clavicles; otherwise good. Respiration good throughout. Widal's test negative.

X-ray examination showed a well-marked shading on the left side as compared with the right. Excursion of diaphragm on the left side one and three-quarters inches; on the right two and one-eighth inches. After the X-ray examination had been made the chest was again percussed, and it was thought that the percussion note on the left side was less resonant than on the right side. One-half milligram of tuberculin was given, then 1 milligram, then 3 milligrams; reaction.

It will be noticed that three patients in this group had acute articular rheumatism. I have been struck with the frequent association of rheumatism and tuberculosis in these and other similar cases.

Second Group (four patients), namely, those without physical signs, that is, whose lungs were normal by auscultation and percussion.

Case I.—Mary C., aged twenty-five years. Hysteria. Said she vomited about a quart of blood about three days before and again that morning. Did not raise any blood while she was in the hospital. March 20th, physical examination of lungs: Resonance and respiration good.

April 1st, X-ray Examination.—Excursion of the diaphragm on the right side two and one-quarter inches. On the left side three and one-quarter inches. Three subsequent X-ray examinations showed a shortened excursion on the right side. Patient reacted to tuberculin. Temperature 105° F.

Case II.—Bertha M., aged twenty years. February 18, 1899, physical examination of lungs: Resonance and respiration good.

Two *X-ray examinations* showed a darkened apex and a shortened excursion of the diaphragm on the right side. Patient reacted to 10 milligrams of tuberculin. Temperature 101.2° F.; malaise.

Case III.—Julia D., aged twenty years, entered the hospital, March 13, 1899, for what was thought might be typhoid fever. No loss in weight. Unusually well-nourished and well-developed. Physical examination of the lungs showed resonance good throughout, respiration clear and distinct.

X-ray Examination.—Right apex to about the third rib shaded. Excursion of the diaphragm on the right side one and five-eighths inches, on the left side two and three-quarters inches. March 25th, 5 milligrams of tuberculin were given; reaction. Temperature 103° F.

April 14th.—Jerky respiration on the right, but nothing that can be considered abnormal.

Case IV.—Joseph M., aged nineteen years, entered the hospital, February 6, 1897. Physical examination of the lungs showed good resonance and respiration throughout.

March 12th an *X-ray examination* was made in order to examine the heart. Right lung darker from the apex to the third rib. Excursion of the diaphragm two inches on the right side, two and one-half on the left side. No signs by auscultation and percussion at this time.

21st. Second X-ray Examination.—Whole of the right side darker than the left. Diaphragm seen only in full inspiration on the right side; excursion on the left side two and one-half inches.

April 19th.—Physical examination: Some dulness of upper part of the right chest. Respiration diminished. No râles. Vocal and tactile fremitus very slightly increased. Resonance and respiration good over the left chest, both front and back.

25th.—Physical examination the same as on April 19th.

27th. Third X-ray Examination.—Right side darker than normal throughout, and on the left side darker from the apex to the upper border of the fourth rib. Excursion of diaphragm not seen on the right side; on the left side it was one and three-quarter inches.

27th.—Physical examination: No signs on the left side at this time by auscultation and percussion.

Patient died on June 4th. No tubercle bacilli were found at any time, though frequent examinations were made, but on April 13th he reacted strongly to 5 milligrams of tuberculin; marked malaise; temperature 101.5° F.

We see in this second group (of four cases), as well as in similar cases which I have presented elsewhere, that the X-ray examination gave warning of tuberculosis before any departure from the normal was obtained by auscultation and percussion. Let me indicate one or two reasons why we may thus detect increase in density in cases where it is not found by auscultation and percussion. First, if the density is much below the surface of the lung, as in central pneumonia, its presence is not recognized by auscultation and percussion, but a shadow of the consolidated portion of the lung is cast on the fluorescent screen as surely as if the pneumonic process were near the surface. This I have observed in several cases. Second, judging from the tests described below, made at the hospital in 1896 with lungs taken from post-mortem examinations, a shadow may be thrown on the fluorescent screen by a slighter degree of congestion than might be detected by auscultation and percussion. For these two reasons the X-ray examination may be the more delicate test under some conditions.

Tests.—Two feet above a Crookes tube I placed a piece of cardboard on which I set a thin, vulcanite cup—both the cardboard and the vulcanite offered little resistance to the rays—and beside the cup a piece of pneumonic lung, two inches thick (dense enough to sink in water), and while looking at the shadow of the lung on the fluorescent screen, which was held above the cup and the lung, I poured water into the cup until its shadow corresponded in darkness to that of the lung. I then measured the depth of the water in the cup, and found it was 2¼ inches. Further experiments showed that a much congested lung, 1 inch thick, which did not sink in water, corresponded in its shadow to 1 inch of water in the cup; also that a normal lung blown up to about the distention of full inspiration corresponded, where it was *3 inches thick*, to only ¼ of an inch of water. In other words, a lung in pneumonia or tuberculosis will, if sufficiently diseased, offer several times as much resistance to the X-rays as the same thickness of a healthy lung—that is, a very dense lung in either pneumonia or tuberculosis offers about as much resistance to the rays as the liver, and a much congested lung offers several times as much as a healthy one. One lung which I examined was normal except for a small, red nodule, less than ½ an inch in diameter. When this lung was looked at under the fluorescent screen this nodule was seen as a dark spot on a bright ground, the whole thickness of the lung casting less shadow than the small, dense substance. These experiments show that congestion increases the opacity of the lungs to the rays, and certain amounts of it, or of edema, even if there is no other pathological process, may sufficiently increase their density to cast a shadow on the fluorescent screen, and yet perhaps not increase it enough to give marked signs by auscultation and percussion.

Further, the lungs are brighter in full inspiration than during expiration. If a pasteboard box containing water, one-half an inch deep, be held over the chest of a large, healthy man, its shadow may be seen in inspiration but not in expiration.

It is perhaps best to repeat again the statement that the diagnosis of tuberculosis is not made by an X-ray examination alone, but it does give early warning in some cases of a departure from the normal in the lung which puts us on our guard and enables us, in conjunction with the history, etc., to make the diagnosis of tuberculosis, and thus in many early cases to arrest its progress by proper care.

The following case is suggestive:

C. B., a young man, whose father died of tuberculosis, was brought to me for an X-ray examination and for consultation. He had a history of recent rapid loss of flesh, but there were no physical signs, no temperature, no cough, and the pulse was not rapid. Both his physicians suspected tuberculosis, and he was being kept under observation until more definite signs should develop. The X-ray examination showed a darkened apex of one lung and a much shortened excursion of the diaphragm on the same side. My advice was that he should be sent directly where he could have good food and lead an out-of-door life for some months. This advice was followed. Four months later his family reported him better than he had ever been at any time in his life.

I believe that we may regard the successful care of early tuberculosis as dependent largely upon maintaining the condition and well-being of the patient at as high a point as possible.

The X-ray examination is also useful from another point of view. Physical signs of increased density at the apex and râles, if not confirmed by an X-ray examination, may be questioned in cases where the history and other evidence do not bear out these signs. I have seen seven cases where an X-ray examination prevented my taking too unfavorable a view, though the physical signs indicated beginning tuberculosis. In none of these has tuberculosis developed, and in such of them as I could test with tuberculin there was no reaction.

In doubtful cases two X-ray examinations should always be made at an interval of some days, in order that the second examination may verify or disprove the first, as there are various conditions, that I have referred to elsewhere, which may temporarily give signs similar to those observed in pulmonary tuberculosis.

In studying tuberculosis by the X-rays we usually find that the apex is darkened and the excursion of the diaphragm is shortened;[1] but we may find now and then only a general diminution in the clearness of the outlines of the lungs and of the ribs. This latter condition is found probably in cases where the disease is disseminated, but it is not easy to recognize this slight departure from the normal unless the physician is in constant practice with the fluoroscope.

Acute miliary tuberculosis sometimes offers difficulties in diagnosis, and is confounded with some other disease, typhoid fever, for example. An X ray examination of the lungs, by showing a marked shadow on the screen, though at the same time these organs are hyper-resonant to percussion, may direct the physician to a correct diagnosis. I examined with the X-rays a lung taken from a patient who had died of miliary tuberculosis, and found that where it was two inches thick it cast a shadow on the screen as dark as that made by water 1¼ inches deep in an aluminum cup.

I have seen two patients about again whom I had thought had miliary tuberculosis. The fluoroscope showed dark areas in their lungs, and they reacted strongly to tuberculin. They were too weak to feed themselves and feeble beyond any probable hope of recovery, but their health improved, and with it the appearances on the screen as shown by several examinations.

Other Uses Which Deserve Brief Mention.—The X-ray examination enables the physician to recognize some *old* or *latent areas* of tuberculosis which might otherwise be overlooked. In some of my patients I have found well-marked evidence of former disease by means of the X-rays, and on inquiry have learned that the original trouble dated back in some cases twenty or thirty years, and in others over forty years. The recognition of old areas of tuberculosis by the physician enables him to guard his patient against the dangers of lighting up the disease afresh.

Tuberculosis and Pleurisy with Effusion.—I have seen some cases of pleurisy with effusion in which the X-ray examination gave evidence of increased density at the apex of one lung, although this was not then detected by physical signs. The testimony of the fluorescent screen was confirmed by the finding of tubercle bacilli or by the tuberculin-test.

Tuberculosis with Bronchitis.—Here X-ray examinations may be of much service. In several cases of bronchitis I found by an X ray examination an increased density at the apex of one lung, which had escaped notice by physical signs. In nearly all of these cases tubercle bacilli were found later.

Tuberculosis with Emphysema. — The increased density in the lung due to tuberculosis may be so obscured by emphysema that it is not recognized by physical signs, but this emphysematous condition offers no obstacle to the X-ray examination; and the presence of tuberculosis in some of the cases of this class that I examined was confirmed by the finding of tubercle bacilli or by the tuberculin-test. The helpfulness of the X-ray examination where tuberculosis and emphysema are both present is twofold. It not only enables us to recognize tuberculosis where, by physical signs, it is undetected, but also to make a diagnosis of *emphysema* which had previously not been suspected by physical signs on account of the *tuberculosis* from which the patient was suffering.

To sum up: *Incipient Pulmonary Tuberculosis.*—I have seen thus far twenty-four cases, where there were slight or no physical signs, in which X-ray examinations showed signs of pulmonary tuberculosis. In all of these cases the X-ray examination was confirmed by finding the tubercle bacilli or by the tuberculin-test. In twenty-two cases I have made the diagnosis of incipient pulmonary tuberculosis in conjunction with other indications of tuberculosis, such as one or more of the following: Hemoptysis, loss of flesh, morning cough, night-sweats, evening rise in temperature, slight physical signs. In these cases the diagnosis was not confirmed by finding the tubercle bacilli, and the tuberculin-test was not used.

I recall two cases of pulmonary tuberculosis in which I found no constant signs by X-ray examinations, though there were râles, and bacilli had been found.

[1] The shortened excursion of the diaphragm may be due to changes in the lung itself or to pleuritic adhesions which prevent the lung from expanding.

I have recognized by means of the X-ray examinations tuberculosis with emphysema in nine cases, tuberculosis with bronchitis in eight cases, and tuberculosis with pleurisy in thirteen cases. In most, though not in all, of these thirty cases the diagnosis was confirmed by finding the tubercle bacilli or by the tuberculin test.

The traces of old tubercular lesions which were quiescent were apparent to me in a number of cases by means of the X-ray examinations.

I have been assisted by the X-rays to a correct diagnosis in three cases of acute miliary tuberculosis.

In the majority of the remaining cases of tuberculosis in which both a physical and an X-ray examination were made the latter indicated more extensive disease than did auscultation and percussion. Sometimes only one lung was suspected by auscultation and percussion when an X-ray examination showed signs in both lungs.

The reports of the Board of Health of the State of Massachusetts, as pointed out by Dr. Abbott, show that out of 1000 persons dying in this State between twenty and thirty years old 597 die of tuberculosis of the lungs. This fact indicates the importance of careful X ray examinations of persons between these ages and younger who may have any predisposition to this disease or in whom it may be suspected.

I think it will be useful to compare briefly two methods of making X-ray examinations in diseases of the chest, namely, the one by the fluorescent screen and the other by the X-ray photographs, and the description of a case is a simple way to present the subject.

C. P., aged six years, entered the Boston City Hospital, March 16, 1899, with croupous pneumonia. Illness began on March 13th. Physical signs at entrance were as follows: Resonance and respiration good everywhere, except over a small patch in the left back, from the mid-scapula to the lower angle, where there were bronchial breathing and bronchophony.

March 17th, X-ray examination by the fluorescent screen showed a darkened area, 2¾ inches wide, extending outward and upward from the left border of the heart. The excursion of the diaphragm on the left side was ¼ of an inch; on the right side 1 inch.

31st. There were no physical signs and there had been none for four days. *A second X-ray examination* showed much improvement, but the dark area was still readily perceived, though it was not so dark as on March 17th. The excursion of the diaphragm on the left side was 1 inch, on the right 1⅜ inches.

As on March 31st and the four days previous, there were no physical signs in the lungs of this patient, although the signs of departure from the normal were very patent on the fluorescent screen, the case seemed to me a favorable one in which to make a comparison between the signs of consolidation as recognized on the one hand by the screen, and on the other by X-ray photographs.

Three negatives were made (to see if variation in the time of exposure, or if tubes with different vacuums would bring out anything), one on March 30th and two on March 31st. On March 30th the exposure was four minutes; on March 31st, three minutes, and a second negative, with an exposure of two minutes, was taken with a different tube on this same day (the tube was in all cases three feet away). From these negatives I had prints made, and *in none* of them did I find evidence of increased density in the left lung as compared with the right.

CASE II.—E. L., a woman, aged eighteen years, entered the hospital February 28th. She had pneumonia involving the lower lobe on the left side, which began one week before entrance, February 21st. There was nothing unusual about the progress of the disease. Four X-ray examinations were made, March 1st, 11th, 23d, and 30th, respectively. Neither on March 20th nor afterward were there physical signs on auscultation and percussion; resonance and respiration were good throughout; but I found signs of consolidation by the fluorescent screen, as indicated by a darkened area and shortened excursion of the diaphragm when compared with the right side. An X-ray photograph taken at this time did not indicate disease, and there were no physical signs.

To sum up: On March 30th in neither of these patients were there physical signs, nor did X-ray photographs taken on this day give any indication of an abnormal condition of the lung, but well-marked signs were seen on the fluorescent screen.

Again, in two cases of incipient tuberculosis in young women in whom the disease was recognized first by an X ray examination with the fluorescent screen I could see no difference in the two sides by the X-ray photograph. In one of these patients I found no physical signs at the time the X-ray photographs were taken; in the other, where the X ray photograph was taken some time after the disease was recognized on the screen and the disease had progressed, there was slight increase in tactile fremitus and a prolonged expiration on the right side.

The cases above mentioned lead me to believe that in these diseases we may have in the fluorescent screen a more ready, convenient, and delicate method of recognizing an abnormal condition of the lung than we have in X ray photographs, and the screen has the advantage of revealing the mobility of the diaphragm and heart.

If simple precautions are taken there is not the slightest *risk* even of an X ray burn. I have examined about 3000 patients without a single case of injury or of inconvenience even.

I wish to emphasize the fact that signs may be obtained by an X-ray examination when the disease is limited not only to one side, but is just beginning even on that side, before there are physical signs in the first lung or cough.

It is interesting to note that X-ray examinations show that the disease begins oftener in the right than in the left apex.

In conclusion, I desire again to urge the adoption of a method which aids in the early detection of pulmonary tuberculosis. First, because an early diagnosis gives the best opportunity to arrest the disease; and second, because patients may then be taught early simple precautions which will prevent them from being a source of contagion to others should cough and expectoration develop.

I desire to record again my appreciation of the value of Dr. William H. Rollin's investigations, published in the *Electrical Review*, which have promoted the usefulness of the Röntgen light in medicine and in surgery, and to express my gratitude to him for his untiring readiness to aid me to overcome the obstacles which have beset those who are using X-ray apparatus.

CLIMATE AND RENAL DISEASES.[1]

By J. B. WALKER, M.D.,
OF PHILADELPHIA.

At a meeting of this Association, held in 1888, Dr. J. C. Wilson read a paper on "Climate and Bright's Disease," presenting the views held by the leaders of thought in diseases of the kidneys; and more recently Dr. Solly, in his admirable work on "Medical Climatology," has given a comprehensive epitome of the same subject as viewed by himself and the various authorities of the day. There remains perhaps but little to be added as regards the general aspects of the question except to verify, modify, or correct the conclusions already arrived at and to specialize and individualize as observation and experience suggest.

The causal relation of certain climatic conditions for and against affections of the kidneys has been sufficiently established. Their prevalence in temperate climes where variability of temperature is accompanied by moisture, as is found in the inland portions of the Atlantic watershed in our own country, compared with their infrequency in torrid regions is affirmed by all authorities and abundantly supported by statistics; and while all admit that the habits and modes of life of the inhabitants of the former have something, no doubt much, to do with this state of affairs, yet that the climatic conditions *per se*, bear a direct causal relation in precipitating such attacks is thoroughly appreciated.

The conditions of climate acting in this causal manner are variability of temperature associated with dampness. The dampness is not alone represented by the amount of moisture contained in the atmosphere, but what I believe to be of much more vital importance, the dampness of the soil. As our immortal Bowditch pointed out long ago that it is of prime importance in choosing a climate for phthisical patients to also select a dry, porous soil, and *per contra*, that a damp soil is an important factor in inducing or favoring the development of phthisis, so I have no doubt the climatic factor of prime importance in inducing renal disease is dampness of the soil. Next to the respiratory, no system suffers from improper climatic conditions so seriously as the renal. Tucked away though these organs be in the warmest and most protected portion of the animal economy, yet through the workings of the vasomotor apparatus climatic variations directly impress them. If, as is frequently the case and increasingly so with advancing years, they are in a condition of engorgement due to their efforts at elimination of an excess of or an imperfectly metabolized tissue waste, or from other irritating ingredients of the blood as alcohol, lead, etc., if, while in this state, the skin insufficiently protected be subject to cold and especially damp cold the transformation into an inflammatory state is easily made. If this is repeated year in and year out pathological changes must of necessity result and more or less crippled kidneys be the outcome. It is for such crippled kidneys that climate furnishes the most relief. They do their work under favorable conditions well but quickly show their imperfections if unfavorable conditions arise. Such kidneys secrete an abundant urine of low specific gravity, ranging about 1010, without albumin, usually acid in reaction, and sometimes precipitating the urates on cooling. If the possessor of such a pair of kidneys has an attack of acute disease he is apt to present an albuminous urine with casts, and life may be in jeopardy or, as is more frequently the result, renal inadequacy is exaggerated by an increase of the crippling process.

It is in this class of cases that variability of temperature may exert the same deteriorating influence, in some cases inducing an attack of acute Bright's disease, but in a vastly larger number stopping short of this, giving an albuminous urine, not smoky nor possessed of blood-casts, but often associated with evidences of imperfect depuration of the blood. Among these evidences are headache, usually occipital, anorexia, running into nausea and occasionally vomiting and sometimes slight vertigo. These

[1] Read at the sixteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

symptoms are present on awakening in the morning and sometimes wake the patient two or three hours before his accustomed time. They may shade away before or immediately after breakfast, are always absent or greatly diminished by 11 A.M., sometimes to return about 4 P.M., not quite so severe as in the morning and absent entirely by bedtime in all but the severest cases. For this class of patients a proper climate will do much to restore the renal equilibrium. Such individuals are usually in perfect health during the summer months when the skin is active and an out-of door life possible, but with the onset of the cold and dampness of early fall the symptoms return each year with perhaps increasing vigor unless recognized and the condition carefully treated. Often in spite of the utmost precaution the kidney changes become more and more marked.

During the winter of 1898–1899 a large number of such patients came under my observation. The extreme variability which marked our Eastern coast climate from early in September, through the winter and until the middle of April, with rain or snowfall at short intervals, the air constantly saturated with moisture and at least in the cities the streets continuously wet, the number of respiratory diseases was vastly increased and the number of embarrassed kidneys greatly multiplied. In some subjects the kidney embarrassment accompanied the catarrhs of the air-passages, modifying their course and retarding the convalescence. In others it existed alone. It was usually easily controlled and disappeared in a few weeks; in other instances it developed into acute catarrhal nephritis. So much for the causal relations of climate.

As for the remedial or therapeutic value I will point first to the improvement of this class in the warmer, drier summer months in the same latitude and locality. The modified diet of the summer with its diminished meats, and increased vegetables and fruits no doubt plays no unimportant part in this improvement; but when this feature is persisted in after the inclemencies of the winter appear and systematic exercise, scrupulous attention to the skin and bowels and other hygienic matters have been most carefully persisted in and yet in spite of this the one factor of climatic changes overtops all and reproduces the former condition, one is forced to attribute not a little but the most of the summer's improvement to the climatic conditions associated therewith.

In those cases in which attention to diet, skin and bowels, systematic exercises, etc., with such medicinal aid as may seem wise, fail to prevent attacks of renal incompetency during the winter season I have found a sojourn at Lakewood or Atlantic City of vast benefit. Here the sandy soil dries quickly after a storm, snow soon disappears, and both soil and air are constantly drier except during the actual rainfall. The appetite is usually rapidly restored as the nausea disappears, the headache vanishes, sleep is undisturbed, and in a vew days the change is almost marvelous. The kidneys have resumed their equilibrium and all the functions feel the impress. This experience, coinciding with one's preconceived notions and repeated in a number of cases leads me to present this very imperfect paper.

In conclusion, I would state that as dampness of soil is perhaps the most objectionable climatic factor in the induction and aggravation of crippled kidneys, for those residing where this factor prevails and for crippled kidneys in general the sunny, sandy seashore resorts, especially where dryness of air and sunshine are associated with a suitable soil, furnish an aid to relief of unquestioned value.

There is no occasion in most of these instances to send such invalids to far distant points in search of a suitable climate. In the inland cities of our Atlantic watershed, and even in those cities near the coast where an impermeable pavement aggravates or perpetuates the dampness, the dry, sandy seaside resorts to be found near at hand from New Jersey to Florida, where comfortable living is possible and where patients can take their out-of-door exercise dry shod, furnish an easy, ready and hence available aid to embarrassments of the renal functions which constitute the vast majority of renal diseases met with, and which would otherwise drag their weary length along until the warmer and drier climate of early summer brings relief, while all the time histological changes are possibly carrying the crippling to the danger limit.

I have no desire to detract from the great advantages of the drier and continuous warmth of the great Southwest for the more marked cases, nor of the Hot Springs of Virginia and Richfield to bring recalcitrant kidneys back to their normal equipose. For severer cases these may be requisite. My wish is to give my experience as to the value of more accessible places which supply the requisite aid in many cases when the renal changes are still within the possibility of harmonious work under favorable conditions.

A NEW OPERATION FOR INGUINAL HERNIA.[1]

By CARL BECK, M.D.,
OF NEW YORK.

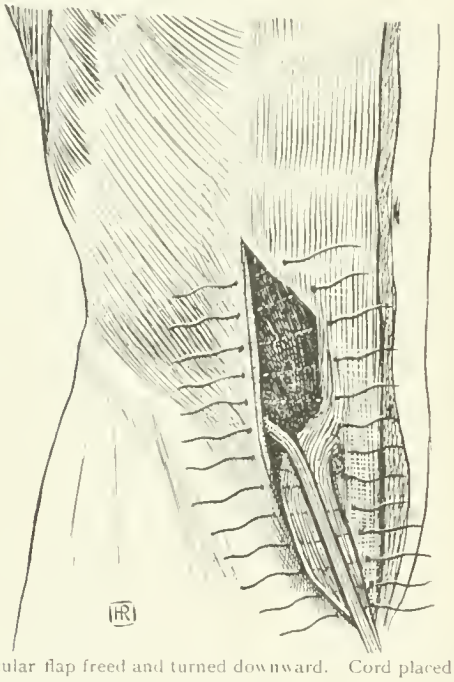
THE results obtained by Bassini's well-known method are so brilliant that it may seem arrogant to make any claims for new methods. Still, as Bas-

[1] Read before the Surgical Section of the New York Academy of Medicine, March 13, 1899.

sini himself admits that he had recurrences in three per cent. of his cases and other surgeons even more, it is legitimate to look for further means of fortifying the abdominal wall. Eleven days ago I tried to accomplish this in the case of a patient upon whom I had previously performed Bassini's operation, and who had presented himself with a recurrence. The modus operandi is as follows:

The incision is made down to the internal surface of Poupart's ligament alongside the outer margin of the rectus muscle, exposing its lower third down to the shelving portion of Poupart's ligament. The sac is isolated from the cord, and ligated and cut off within the internal ring While the cord is held away the cut aponeuroses are dissected backward and an oblique incision is made which divides the lateral fibers of the rectus muscle transversely to the extent of about one third of its width, a little below the lower third of the muscle (Fig. 1). The

Fig. 1.

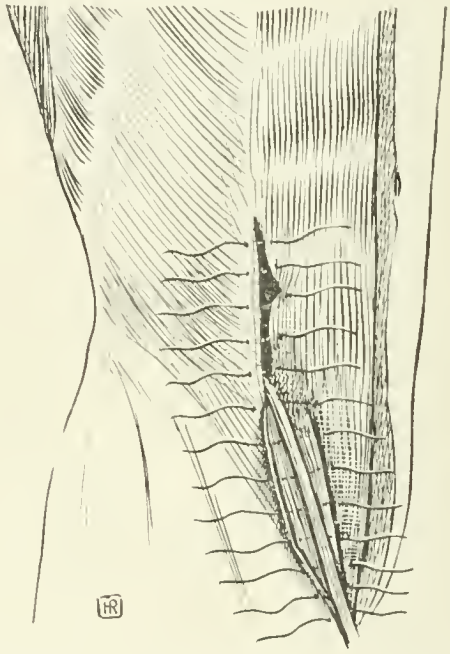


Muscular flap freed and turned downward. Cord placed above flap.

incised fibers are then so far severed from the remainder of the muscle that their upper portion when turned downward will reach Poupart's ligament without any considerable tension. This turned flap is now fastened to the conjoined tendon at one side, and to Poupart's ligament on the other, with formalin catgut after the cord has been placed upon it so that the cord rides, as it were, on the muscular flap. The gap caused by the resection of the flap is now covered by uniting the outer margin of the rectus muscle with the broad abdominal muscles. Then the cut aponeuroses are united above the cord by a continuous suture, thus forming a very strong posterior *muscular* wall, which in large and direct hernias may be of importance (Fig. 2). It may also be that the removal of the sac may thus be rendered unnecessary in small hernias.

The patient showed no reaction after the operation, and the result seems to be perfect. I have performed the same operation twice since; once on

Fig. 2.



Flap held by sutures at Poupart's ligament as well as at the conjoined tendon. Gap caused by the elimination of muscular portion united.

a boy eight years of age, and once on a girl of six years. Thus far in both cases the result has proved to be satisfactory. The real value of this method, however, can only become evident after more experience and observation. The question of the gap as well as that of the division of the nerves and of cutting off of some of the blood-supply has been well considered, and the objections seem to be only theoretical.

CONCERNING COLORADO.

By SAMUAL A. FISK, A.M., M.D.,
of Denver, Col.

It is a popular phrase in Colorado that one has come West either for health or wealth, and in the popular mind there are two classes in the community, the health-seeker and the wealth-seeker. Experience has ample justification for the existence of each. On the last day of the old year I met casually on the streets of Denver a man in robust health and

in active business life who came there from an Eastern city some seven years ago on account of some pulmonary complication. Since that time he has had many a strain, financial and from illness, and yet has weathered them all and to-day is a member of one of our leading mercantile houses and has taken out a life insurance policy in a representative company after a rigid examination and with a full knowledge on the part of the examiner. He stands as a type. What is true of him can be said of thousands in Colorado. Not that they have all taken out life insurance, but because from an almost certain death they have secured a restoration of heath so that they are well in the sense that Dr. Williams uses the terms, *i.e.*, they are able to follow their occupation without any recurrence of their former symptoms.

This is a simple statement on paper but it is of tremendous importance to the individual and to the masses. Pulmonary tuberculosis is the great foe of mankind. At the present day one so afflicted is regarded with suspicion, almost as though he were a leper. "On no account whatever must you ever enter my house again; you are a source of danger to everybody," writes one. This is a panicky fear, it may be, for which the medical profession may be somewhat responsible, but warranted perhaps by the appalling annual mortality from pulmonary tuberculosis, which causes fully twelve per cent. of all deaths, and is estimated to have killed at least 133,000 persons in the United States during the year 1894. So far injections of various sorts and medicinal remedies have not proved of avail in treating this disease, and we have to come back to the lesson taught by the man whom I have cited, that of "climatic cure." Quotations from eminent authorities on which to ground this belief abound but one from Sir Andrew Clark will answer the purpose: "I am as sure as I can be," he writes, "that recoveries from phthisis, judiciously treated at high altitudes, are much more numerous and much more lasting than those treated by any other method at any other place." And Dr. Herman Weber adds, after speaking of European stations: "More important to us in the treatment of phthisis are the health-resorts of America. . . . In the Rocky Mountains of the United States we possess indeed an endless variety of mountain climates." Since these remarks were made Dr. Solly has given figures which, taken from a large range of observers, amply confirm what these writers say. His data show "improvement" in 59 per cent. of all cases treated in low climates (ocean, island, coast, inland sanitariums, and desert), and in 76 per cent. of those treated in high climates, from which he draws the conclusion: "This inquiry has clearly demonstrated two things, *viz.*, that the majority of consumptives do better, other things being equal, the further they are removed from the sea, and that they do better in high than in low altitudes." But one naturally asks, "Why go to the mountains? are not cures brought about in New York City and in Boston? Are not Abana and Pharpar better than all the waters of Isreal? Assuredly recoveries have occurred and do occur right on the seacoast, but in such a serious matter one cannot afford to trifle. The best is none too good. If the house is on fire one does not fool with it or wait for the flames to become more extensive before setting to work to put out the fire, and that in the best way at his command. Why should one take risks with his health that he will not take with his house?

What, then, are the advantages of the high altitudes of the Rocky Mountains of Colorado in the treatment of pulmonary tuberculosis? There has been a great deal of theorizing on this point, good, bad, and indifferent, substantiated and unsubstantiated; but what is wanted is plain, everyday experience. In reading all that has been said on the subject, one is often reminded of

> If this young man expresses himself in terms too deep for me,
> Why what a very singularly deep young man this deep young man must be!

The questions of free ozone with its insufficient evidence of terrestrial electricity and the necessity for it to pass properly over the system; of the influence of diminished atmospheric pressure in causing deeper inspirations and so bringing into play heretofore unused and diseased portions of the lung, the writer does not profess to know much about. He remembers that experience has not always borne out conclusions supposed to be established as facts, and that even if Tyndall did state that spontaneous generation did not occur at the height of the Bel Alp (7000 feet), and even if Miquel did count the number of bacteria in ten cubic meters of air at various heights, from that of the Rue de Rivoli up to 2000 or 4000 meters, where he found none, nevertheless we must not infer that altitude *per se* produces asepsis, as we know that wherever large numbers of human beings congregate there the purity of the air is liable to be impaired. He also recalls that experiments have shown that Koch's results with reference to the effects of sunshine upon the bacillus tuberculosis are not to be universally applied. Bearing these things in mind he thinks that it is wise not to be too hasty in our conclusions on matters of opinion or of theory. One thing is patent, as Solly has shown; more patients do well in high altitudes than in low. There is something in the location that improves the powers of repair of the human system, that at least increases the resistance of the body to the rav-

ages of the disease. Altitude seems to be a factor. In Colorado the so called "invalid belt" varies from 4600 to 8000 feet. Then there are the many climatic conditions which conduce to an out of-door life, which in itself leads to repair. For instance, the air is remarkably dry, and in a dry air the sensations of heat and cold are less intense; the amount of rain- and snow-fall is slight in comparison with that which prevails along the Atlantic coast; by reason of it Denver ranks as a cool, stimulating climate; the daily motion of air (wind) is much less than prevails in our large cities, from which many of our patients come, being 101 miles less than the daily average of Boston, 85 miles less than Chicago, 62 miles less than Philadelphia or New York; and above all there is almost unexcelled sunshine. The Weather Bureau's statistics on this point show for an average of ten years that Denver had only fifty-one cloudy days in a year. By the term cloudy is meant that the sky is from eight-tenths to completely obscured by clouds. This gives an average of 314 days in a year when the patient can be out of doors, and more than that, for many of the so-called cloudy days are days when a patient can comfortably be out. This is a state of almost perpetual sunshine; where one makes engagements without the proviso "if it does not rain;" where umbrellas are so seldom used that they get misplaced or lost.

From September to April, inclusive, in a year taken at haphazard, we find only 11 days that were completely cloudy, that is, 11 days out of 242 that were cloudy all day long so that an invalid would have to be housed. But one should regard the actual as well as the possible sunshine. Here the figures are still more striking, showing an average of 65 per cent. per annum as against 49 per cent. in Philadelphia. The statistics for November, 1898, give Denver a total of 77 per cent. of possible sunshine, and for December, 85 per cent. Moreover, the possibility is great, for the stretch of plains to the east and the distance of the mountains to the west from Denver allows the sun to shine on the city all day long. This gives a possible 9 hours 26 minutes of sunshine for Denver on the first day of January as compared with 4 hours 57 minutes at Davos Platz. I have heard the difference likened to that of an invalid getting out of bed in a room with and without a fire. In other words, with a sunrise at 7.20 instead of at 10.20 o'clock the air is warmed for the patient when he has had his breakfast and starts out.

We must not neglect to mention the character of the soil, which is sandy, gravelly and sloping. There are few surface streams. Many of the beds are dry arroyas, known as "sand creeks," and the snow from the mountains seems to pass away in underground currents. Artesian borings strike water almost anywhere. On the eastern slope the decline, and consequently the drainage, is gradual from that of Denver (5280 feet) to the Missouri River at Omaha (1100 feet).

"Some climates," says Weber, "are apt to produce a feeling of langor and diminished inclination for food, while others raise the nervous system, improve the appetite, digestion, sanguinification, and muscular energy, and facilitate the elimination of used-up matter," just as there are remedies, like morphin, which soothe but check the appetite and nutrition, and others, like the bitter tonics, which improve by stimulating. It is this bracing quality of the Colorado climate that is characteristic of it. The people of the State are essentially a buoyant race. They will not down. Every morning the bright sunshine brings renewed hope and vigor. As the man said, whom I met on the street, as already mentioned, "Isn't this stunning air?" It is hard to stay indoors. Former students and college men complain that Nature is too inviting.

But writers on Colorado have been accused of concealment, of a *suppressio veri*, not of misstatement. It is said, for instance, that nothing is mentioned about the winds. Colorado is classed in the popular mind with that large country "Out West" (somewhere, just where is indefinite), where they have blizzards and where persons are blown into eternity. Facts count for little. There is some error in the Weather Bureau's figures. It cannot be that there is so great a difference in favor of Denver, as against Boston, Philadelphia, and New York as the statistics show. Even the inhabitant of peaceful old Northampton will forget about its tornado which lifted a load of hay completely from the wagon and landed it in the street, tore the bridge across the Connecticut from its piers and dropped it in the river, to say nothing of having laid low more than one hundred of its majestic elms, when he talks about the frightful blizzards "Out West," and therefore, because west, in Colorado.

It is also said that Colorado has intolerable dust storms. These critics forget that a dry soil is one of the necessary accompaniments of her climatic conditions. To an air so dry that salt does not need to be dried in the oven; that shoes do not mould if left unworn; that polished steel will remain for years without rusting; that soda-fountains do not sweat in hot weather; nor collars wilt; that crimps stay in the hair, add a small precipitation, an intense and constant sunshine, and a naturally sandy soil—such conditions conduce, especially in the city, to the pulverizing of the soil, and a

slight wind, again more marked in the city where the streets act as a funnel, will pick it up and make the presence of the dust felt. The prevalence of the dust storm, like most things that are disagreeable, is overestimated and remembered, and given undue prominence. The Eastern woman will not forget that her skirts got dusty in March and April, instead of muddy, to which she has been accustomed, and her irritation never subsides. I do not mean to say that we do not have at times winds which send the dust flying and render being out unpleasant, but such times are few and far between as compared with the general run.

Again, it is said that Colorado does not have constant balmy weather and Italian skies. Who said that she does? Certainly not the well informed. It is not her fault if one goes there in midwinter with only summer clothes. This is by no means an exaggerated statement, but poor Colorado has to take the blame. While it is not an uncommon thing to sit with open doors and windows in the heart of January at midday, or to swing in the hammock, or to picnic; the climatic conditions, the rarefied air, etc., are such that the night (when the invalid should be indoors) may be intensely cold. Sometimes, too, the days are cold. One cannot pluck roses out of doors in midwinter in Colorado. The ground is covered with snow at times and there may be a few days of sleighing, but it does not last long and one is surprised on the plains to see this whiteness fade away without making the air moist or the ground damp. It is constantly being hurled in our teeth that So-and-So came to Colorado and did not improve, in fact, may have died. Such is undoubtedly the case. It is not every one who gets well, or who even improves. But the number of the latter would unquestionably increase were better management shown, especially in the selection of the individuals that should come. On this point there should be the best of medical advice. It is folly, if not cruelty, to send patients thousands of miles from home as a last resort when they would not gain anywhere. Then, too, many who do come so order their lives that it would be a miracle if they got well. I am sorry to say that many drink themselves to death. They are falsely impressed with the idea that whisky is a good thing for consumptives, and why not "gallons of it?" Others smoke themselves to death or live thoroughly unhygienic lives. How can one improve if he smokes all day and all night too? If he sits in a stuffy room filled with tobacco-smoke and plays poker when he should be asleep or in the fresh air? Yet such things are not infrequent. I imagine that one could drown even in Siloam if he were determined to do so. Still others under a false impression that exercise is the thing, overdo; they climb mountains, or ride horseback on the run, or puff at their wheels, or overwalk when they should be quietly basking in the sunlight, wrapped in rugs and thoroughly warmed. Still others freeze to death, not literally, but they have brought their summer clothes and are not prepared for a cool climate, and being of a low reaction at the best they cannot endure the rigors of the cold. Others, it may be, are insufficiently fed. It takes money to make the mare go in Colorado as well as elsewhere, and I am sorry to say many and many a poor unfortunate is landed at our doors like a baby in a basket, without any provision having been made for his maintenance afterward. Our hospitals are full of them, our sympathies go out to them, but they are always with us. We do what we can, but almost invariably with the same result. They do not have a fair show, and they go from bad to worse, physically, sometimes morally, and die.

Some years ago I heard a prominent physician say: "I have given up sending my patients to Colorado; they can't get anything to eat." He showed his inaccurate information by his statement. Good, nutritious food is to be had and plenty of it. It may not always be of the kind that one is accustomed to. One cannot expect a bluefish right out of the water 2000 miles from the ocean, but one can be on the coast of Maine and fare mighty badly on the fish question. The eminent gentleman before mentioned would be agreeably astonished at the excellence of the oysters, or clams, or halibut, or whitefish, or salmon, or cod, or even the broiled live lobster that could be put in front of him in Denver. It is needless to say that the meats are of the best, and as for the vegetables and fruits they cannot be surpassed. Flour, milk, butter, eggs, and such staples are to be had as good as anywhere in the world. Of course many people prefer their roasts done to death, and there are those in Colorado, as elsewhere, who still fry their beefsteaks.

But after making all allowances, the fact remains that the Colorado climate is mighty good, perhaps the best in the world, and that seventy-six per cent. (Solly) of all patients, good, bad, and indifferent, and eighty-nine per cent. of those in the first stage, that go there, are benefited. The climate is not adapted to every invalid. On that point there should be proper advice before going; nor does every patient do well after arrival. Climate of itself is not all. It needs wise use. On that question there should be suitable directions from men of experience on the spot.

Many persons feel the separation from accustomed friends and scenes and can find nothing good in

their new surroundings. The sun does not shine for such, nor is the glorious moonlight, as clear as crystal so that one can see to read print by it, anything but utter darkness to these. Some such are attacked with genuine homesickness, just as some, and not a few, die of it at the wars. Others cannot rise to the emergency. They prefer electric-light to sunshine, pavements to dry soil, clouds to blue sky. Their comparisons are drawn from artificial things. The rich coloring of the mountain side is likened to velvet; or a piece of lace is more wonderful than the columbine; the glide of a waltz is more graceful than the magnificent poise of an eagle; or the flight of a balloon on canvas more majestic more uplifting than the mountaintop. Others do not find God in Colorado, in the Rockies, as wonderful as across the seas, in the Engadine. For all such pity should be felt. "There is one glory of the sun and another glory of the moon, and another glory of the stars; for one star differeth from another star in glory." So there is the glory of the rocks and waves of the Maine coast, or of the miles upon miles of sands and beach of Cape Cod, or of the Presidential range of the White Mountains, with its "scratch on the face of Nature," or of the quiet peace of the Connecticut Valley, or of the Hudson, or of Lake George, or of the mighty torrent of Niagara, or of the Great Lakes. Each different from the other in glory, but each has its own crown. Who, then, shall deny to Colorado and to the Rockies their glory? It is unlike the others, but it is none the less good.

> Vain, all in vain, will outward sight be found,
> Unless the light of heart and mind abound.

If one will not be pleased with mountain scenery unless the tide comes rolling in, or if one must have the graceful elm and vistas and ha ha fence in every landscape he had better not come to Colorado; or if he can walk no other street than Fifth Avenue; or if his eyes reach no higher than the Waldorf Astoria he will find no pleasure in our mighty mountain sides. But if one is really fond of expanse, and loves the violet and the purple, he cannot find them to better advantage than on our plains. Barren plains they are, to one accustomed to the undulating meadow, but how grand! how immense! how roomy! Can one hear the gentle turtle-dove cooing to his mate at dusk without feeling at peace with the world? or see the ridge in deep blue outline, cameo-like, clear up against the sky without holding his breath in awe? or listen to the sighing of the pines, or even to the absolute stillness of Nature without having some chord touched and his heart reply:

> Hast thou named all the birds without a gun?
> Loved the wood-rose, and left it on its stalk?

Then walk with Carter of Breckenridge, or Wallihan of Ray, and learn to enjoy yourself; or revel in the columbine, the penstamen, or the mariposa lily and consult with Leida Lansing. What mean the mighty seams and upheavals? The tremendous cañons, the majestic mountains, the beds of prehistoric fossils? Ah, who can say?

But an overwhelming objection is raised by many that if one gets well in Colorado he is obliged to stay there. To many this seems insurmountable. They would rather die, they say, and they will probably have their way. "I *will* drown, and nobody *shall* save me," is their motto. There is no use wasting time on such. But there are others who think that they would find it an exile, and they make a mountain out of a mole heap. To most of mankind it holds true, as said of Job, "Yea, all that a man hath will he give for his life," and recognizing the danger they are not so particular about the means of escape. When pulmonary tuberculosis exists one cannot rationally doubt the danger, and Colorado is by no means a questionable boon, even if regarded simply as a means of escape. Add to its other advantages its connection with the world, its accessibility, the comfort and ease of reaching it, the luxury of one's surroundings after one has reached there, the progress of its civilization in all departments, educational, civil, and religious, and it is thoroughly unreasonable to call it an exile. Colorado does not possess all that an older civilization affords, but she is by no means cut off from the rest of the world. Patti, Melba, Nordica, Ysaye, Wilhelmj, Sarasate, D'Albert, Paderewski, Damrosch, Bernhardt, Modjeska, Booth, Barrett, Mansfield, the Kendalls, and many others have found it to their advantage to look in upon her, and they have not gone away empty. Denver is called the "Queen City of the Plains," a title which she wears nobly and with dignity.

However, one is not always obliged to live there. Most patients find it wise to do so, for they recognize that like causes will produce like results and they hesitate to go through life with the sword of Damocles hanging over their heads. Having been saved from drowning once they are loth to jump back into the water. As has already been said, there is many an example to prove that persons with a tubercular tendency do live and work in the East; but experience has also shown that such a course is invariably attended by risk, and mistake means such dire results that one may well think twice before taking the chance. Most persons feel that it is better to err on the safe side, especially when that side is so attractive.

Of the numerous instances of those who are cured

and are living at the East again, let me cite two from my own experience:

A young lady came to Colorado a few years ago practically bedridden, with regard to whose tubercular condition, as shown by physical and laboratory test, there was no doubt, after three years, during which time she spent one summer in the East, she left and went abroad. Some months later she was reported as following the hounds and playing hockey in a most energetic fashion with the English girls who did not seem a bit stronger than she; and a year after that she wrote from the coast of New England of yachting, swimming, golfing, playing tennis, riding a wheel, and added: "My health is perfect. I believe I am as strong as I used to be, which seems wonderful to me."

The other subject, a clergyman, in middle life and of great activity, spent four months in Colorado, having been sent West by a leading diagnostician of New York. There was no question as to his condition. His gain was amazing. His search for health was a matter of the purest business. There was no deviation from the straight line. He ate well, slept well, got hours of fresh air; he allowed nothing to interfere with measures he esteemed to be for his good. His restoration to health was a duty he owed to his family and to God. At the end of four months he returned to his parish and his work (some three years ago) where he has remained ever since, in the enjoyment of complete physical vigor. Other cases could be cited, but these will show what is possible.

Does one want to take a vacation? Where can more of diversity or of interest be found? Here are the bracing mountain air bringing distant objects near to, the clear blue sky, the day after day of sunshine, the dry soil, the freedom from moisture the exhilaration, the buoyancy. As one grows older it is charming to be the boy again, to get up in the morning glad to see the sun, refreshed by a night's sleep, with a heart for any fate, ready to throw up his hat as of old. Here, too, are to be found the inducements to vigorous, out-of-door life, from riding the broncho and "rounding-up" with the cowboys, to hunting the bear, or mountain-lion, the elk, antelope, or deer, or throwing the line, or decoying the duck. If one's inclination is more gentle, and he wants to be soothed and to bask rather than exercise vigorously, there is Manitou with its sparkling table-water, to many more palatable than Apollinaris; or Glenwood with its baths and pool, where one can swim as the writer has done, in an acre of water, naturally warmed, while the snow is falling all about and the fountain close at hand has frozen into a pyramid of ice as high as a house. And there are hosts of other springs, all of which have their value. Does one want scenery? There are the mountains with their lofty peaks, their deep gorges, their cañons, their snow-capped summits, their parks, their ever varied and novel aspect. They are the Rocky Mountains, different from the usual, with a nobility all their own. Says a recent writer, after tabulating a long list of the peaks bearing a name, "Seventy-two peaks between 13,500 and 14,300 feet in height are unnamed, and so not showing in this list." Any one of these peaks, now unnamed, would be a fitting jewel to any range.

One is led to speak of the mountain passes our railroads climb. The train takes but a few cars and two engines. It is no easy ascent. The incline is quite perceptible. The panting, fuming, snorting engines are to be seen on the curve. First they go north, and soon they go south. They twist and turn and describe a letter S. One can touch the rocks, close at hand, or on the other side look over a precipice so steep that he becomes dizzy and closes his eyes. As the pass is climbed a glorious expanse of summit after summit stretches before the gaze. It is beyond description. At last the engines stop their panting; the toil and strain is over. The summit (10,856 ft.) is reached. Surely there can be nothing but cloudland above! But, no! There, still reaching thousands of feet into the sky is Ouray, with majestic dignity, proclaiming that he is yet a mighty mountain. The effect beggers description, and with bated breath the descent is made. Pages upon pages could by no means exhaust the subject. One scarcely knows where to stop.

Says one of the "Cape Cod Folks" with unusual force, in speaking of his people and locality: "Thar's suthin' about it sorter holts to 'em. They allus come a-driftin' back in some shape or other." This is peculiarly true of Colorado. The place and the climate possess a fascination for one who has experienced it, and he is apt to come "a-driftin' back."

But, to return. Take it for granted that it is wise for the tubercular patient, who would have died had he not come to Colorado, to remain in Colorado. Assume that he is well and that he is content to let well enough alone. The State of Colorado will furnish an adequate vent for all of his energies. He can live in a climate adapted to his condition, and at the same time do his full work in life. And not the invalid alone, but any man will find an ample outlet for his most active efforts, for all of his energies. This is no fairy tale, but good, solid fact.

The area of Colorado is 103,925 square miles, nearly 2½ times that of the State of New York, or about 13 times that of the State of Massachusetts.

Colorado is not a one-resource State, not simply, nor principally, a silver-State, as many suppose. Her mountains teem with wealth; her plains and parks feed and shelter thousands of live stock; her valleys, under irrigation, reward the husbandman with cribs flowing over. At the present time the Klondike is the El Dorado. An importation of a few hundreds of thousands of gold from that region is heralded all over the land. But Cripple Creek can pour out her $1,500,000 of gold *per month*, and do it right along, and not be mentioned. The output of gold for the State in 1898 (some $25,000,000) justifies the rather boastful assertion of one of her daily papers: "Colorado has no rival in the production of gold within the limits of the United States." She has not found it profitable to push her silver industry, and yet her output of that precious metal is large. She mines, besides these, copper and lead, and coal, hard and soft (the area of the coal reserve has been likened to a cube whose sides are seven miles square), and iron fit for steel, in regard to which Mr. Andrew Carnegie is reported to have remarked, at a banquet recently that Pittsburgh was in a position to lay down iron in the markets of the world cheaper than any other locality in the United States with the exception of Colorado. She quarries the best of building stone of high crushing-strength, granite, sandstone of various colors, lava-stone, marble, and onyx. She is rich in flagging stone and paving stone. Here flow wells of oil and jets of natural gas. But it is in her agriculture and horticulture that she is most astonishing. It is quite within the memory of the writer when she was regarded as barren. "Do men gather grapes of thorns or figs of thistles?" one is wont to ask. And so one is incredulous that the land of the cactus, the sage-bush, or the red rock should produce anything but the cactus, or sage-brush, or the rock. No wonder then that the figures make the eyes stick out: 332 bushels of potatoes to the acre, one potato weighing 10½ pounds; oats, 7½ feet high, yielding 112½ bushels to the acre, and weighing 48 pounds per bushel; wheat giving 94 bushels to the acre are figures that make one see stars, even though these are the exceptional yields, and these figures are given on reliable authority. Wheat 27 bushels per acre, oats 40, barley 42, potatoes 132, alfalfa 4 tons; fruit $75 per acre, including young trees; full-bearing orchards $125 per acre; sugar-beets, yielding a factory value of $76.67 per acre. These averages, it is estimated, are fully maintained by the general yield in large areas of the several divisions. As amazing as all this seems, one feels as though it were a tale from the Arabian Nights, when he eats the delicious cantaloupe or muskmelon, or the crisp celery, or the Concord, big, round, juicy; or the peach, as big as a baseball, and as luscious as a Delaware, and is told that they come from Colorado. If one is in doubt, he has simply to ask his caterer.

But it is needless to pursue the subject further. In speaking of the Eastern country, Home, the Coloradoan formerly called it "God's country," in contradistinction to the barren plains and rugged mountain sides. Certainly it begins to look as though God had smiled upon this land, too, "thus inspiring man with confidence in his own resources, and facilitating the increase of his knowledge by encouraging that bold, inquisitive, and scientific spirit which is constantly advancing, and on which all future progress must depend."

As I have said before, Colorado offers ample opportunity for the most strenuous efforts of the most active. The plum is on the tree, but the tree has to be shaken. It is not every one who makes a winning, though the prize is there. Man has to struggle with the angel, but the fruits of victory are great and reward the effort. In Colorado a *man* can find opportunity, and would justly sing

"*Tecum vivere amem, tecum obeam libens.*"

THE OCCURRENCE OF CHEYNE-STOKES RESPIRATION DURING SLEEP A DIAGNOSTIC SYMPTOM IN THE EARLY STAGES OF INTERSTITIAL NEPHRITIS.

By CHARLES O'DONOVAN, M.D.,
of Baltimore, Md.

The occurrence of Cheyne-Stokes respiration in advanced stages of fatty heart and toward the end of the life of individuals suffering from one of the various forms of Bright's disease, as well as in other conditions of coma or allied states, has long been recognized. At such times it is merely one of many features marking the probability of an early fatal termination of the case, and attracting attention only as an interesting symptom of little diagnostic value. Experience has taught me to believe that this form of respiration may be one of the first symptoms observable in cases of chronic interstitial nephritis, giving warning of the sclerotic changes at a time when albumin is totally absent from the urine, or so infrequently present, or in so small quantity as to elude ready detection.

I have records of three cases each presenting this symptom at a time when no albumin could be detected in the urine; nor, in two of them, one a man and the other a woman, was there any other evidence of departure from perfect health. The third, a man, aged about sixty-five years, had well-marked arteriosclerosis with toughened radials. The first man was about fifty-four when Cheyne-

Stokes respiration was first noticed. He was a hard brain-worker, a great smoker, a total-abstainer from alcohol, a married man with a large family, of comfortable surroundings, and apparently in perfect health. He had never suffered from syphilis or any other venereal affection; his work kept him much in the open air; his appetite and digestion were excellent; he was rarely ailing, and then with trifling troubles. His urine was examined frequently, and contained neither albumin nor casts; his lungs were sound; his muscles were firm and strong; his heart was muscularly normal, but would occasionally intermit, dropping a beat at intervals of fifteen or twenty pulsations; otherwise it acted strongly and regularly. This irregularity was ascribed to over-use of tobacco, which he would not give up. He had been subject to severe attacks of headache ten to twenty years before I saw him, but these had been ascribed to neuralgia, and he was thought to have outgrown them. In the light of subsequent events it may be quite correct to accept them as the first symptoms of a prolonged course of nephritis. However that may be, at the time that I am now describing he showed no other symptom than the Cheyne-Stokes respiration, and that only at night. His wife, a woman of accurate observation, described it to me so truthfully that it could not be mistaken, as of nightly occurrence, at a time when he was in deep sleep. It was not always present, but appeared and disappeared without apparent cause, except that any overwork or worry would produce it, and in periods of relaxation it would be absent. This went on for fully seven years, until his death, the positive diagnosis of Bright's disease being made less than a year before the end. It may be interesting to note that, during the last six months of his life, he had several periods of a few days at a time when Cheyne-Stokes respiration was continuous during the day and night, unless relieved by opiates, and was particularly furious during the day.

The second case occurred in a woman who was under treatment for uterine trouble when her peculiar respiration was noticed, nocturnal only in her case also. She was about fifty-two years old and apparently perfectly healthy in every way, except for an intermittent discharge of pus from the cervix uteri. Her urine was examined several times without finding a trace of albumin; her heart and lungs were in every way normal, yet the Cheyne-Stokes respiration persisted night after night, especially after any fatigue or extra exertion. The case passed out of my hands after about six months of treatment and observation, but the patient died some three years later of Bright's disease, with uremic coma and convulsions.

In the third case, the man of seventy-two years, with atheromatous arteries and evident arteriosclerosis, the respiration was first noticed nearly four years before his death, and quite two years before albumin appeared in the urine. In his case, also, it was nocturnal entirely, and was noticed by his nurses, who had been instructed to be on the alert for such a manifestation. It occurred in greater frequency and with more force as his disease progressed, but never became evident in the daytime, as he died suddenly before any uremic symptoms had developed.

Small as is this group of cases they are of intense interest as they offer a suggestion that may assist in many instances in clearing up an obscure diagnosis. Many patients come into the hands of a physician with a train of symptoms that makes Bright's disease one of several possibilities. If albumin be not found by urinary analysis some other cause is assigned and most valuable time is lost when treatment would be most efficacious. When such subjects return months later with albumin present, the kidneys will have undergone such deterioration as to make it impossible to give any hope of a favorable result. It will be noticed that each of these patients presented the symptoms first at night exclusively, and even at that time only at irregular intervals. Careful observation over quite an extended period of time failed to show a single instance of its occurrence during the waking hours; when it appeared it was during sleep, otherwise calm and restful, and not influenced in any way, as far as could be discovered, by any particular posture or change of posture in the individual The subjects were well advanced in years, but showed, in two instances, no other symptoms that would lead one to suspect chronic nephritis; the arteriosclerosis of the third pointed clearly in that direction.

The value of this symptom as an aid to diagnosis depends very much on the accuracy of observation of the nurse or attendant of the suspected individual, but well-marked Cheyne-Stokes respiration is so very peculiar that a few lessons should be enough to teach any one to recognize it. Any trained nurse must have come in contact with it, and should know it at once, and any attendant, even without hospital training, would know it after a little instruction. It is unnecessary to urge the importance of the recognition of chronic nephritis at as early date as possible, before the kidneys shall have become irreparably damaged. If it is possible to arrest the advance of the disease, it must be in its earliest stages, and anything that will help us to a prompt diagnosis, or even to a reasonable suspicion, of such a fatal malady is worthy of careful consideration and extended study.

It would be of great interest to know whether or not Cheyne Stokes respiration is of frequent occurrence in the wards of large hospitals, where many cases of all kinds are grouped together, and where many opportunities are given for observation by night-nurses. From these patients could be eliminated such as would be likely to show this symptom in the usual course of the maladies from which they were suffering; the remainder should be carefully examined for evidences of nephritis, and the results of the examinations preserved for future reference, every effort being made to trace their subsequent histories. By collective investigation in this direction it is quite possible that a very material advance may be made in the early diagnosis of nephritis, at a time when such a diagnosis would be most valuable.

CLINICAL MEMORANDUM.

ESOPHAGOTOMY FOR THE EXTRACTION OF AN IMPACTED TOOTH-PLATE OF SIX YEARS AND FOUR MONTHS' STANDING.

By G. G. EITEL, M.D.,
of Minneapolis, Minn.

Miss A., aged twenty-seven, came to my office August 16, 1892, with the following history: Six years and four months previously she had been at a party, and while dancing, some passing incident caused her to laugh in such a manner as to throw her upper tooth plate out of her mouth on to the floor, breaking it into two pieces. Being more mindful of her personal appearance than of the danger of wearing a broken plate, she wiped the pieces with her handkerchief and replaced them in her mouth, wearing them during the rest of the evening. It being her custom not to remove her plate on retiring, she found to her astonishment on arising the next morning that instead of having two fragments of plate in her mouth she had but one, and she immediately realized that the lost fragment during sleep had passed into the esophagus. As it gave her no discomfort she paid but little attention to it, not even mentioning the circumstance to any one. About one year later when eating rather hurriedly and swallowing a piece of beef that had not been properly masticated, she discovered that it would not pass into the stomach, but was at once regurgitated, and from this time on she noticed the presence of an obstruction. She then consulted a physician, who, according to her story, advised her to leave it alone and pay no attention to it as long as she experienced so little discomfort. Subsequently the obstruction became so marked that she could not swallow any solid food whatever, and for a number of months she was sustained on liquids, mainly milk, many hours being required to swallow a teacupful of milk or beef-tea.

Fortunately the obstruction was low enough down so that quite a large quantity of fluid could be taken into the esophagus above the obstruction and allowed to pass as it might into the stomach. She became so accustomed to having fluid in this reservoir that she seldom went without it during the daytime.

The first thing to attract my attention when she consulted me was her general emaciation and cyanosis with dyspnea. An examination with an esophageal sound revealed an obstruction about two inches below the upper border of the sternum. From the click produced by the sound I was satisfied that the lost fragment of the plate was being struck, and that it was the cause of the obstruction. I made an attempt to grasp the plate with forceps designed for such purposes, but could not reach it. Her physical condition being such as to demand prompt relief, I at once sent her to the Northwestern Hospital, and with the assistance of Drs. Dunsmoor, C. T. Cook, and U. G. Williams performed an external esophagotomy.

The patient being anesthetized with chloroform, was placed on a table, her head somewhat elevated and her neck flexed in the direction of the right shoulder. The field of operation was brought as nearly as possible into an aseptic condition and an incision through the skin and platisma muscle was made on the left side, beginning at about the middle of the neck and extending along the anterior border of the sternocleidomastoid muscle down to the clavicle. This incision was gradually deepened, the anterior jugular vein clamped above and below and severed, and the sternocleidomastoid and omohyoid muscles, the common carotid artery, internal jugular vein, and the trunk of the pneumogastric nerve were drawn back with blunt retractors by my assistants. As the clavicle was approached due care was exercised not to injure the subclavian vein and arch of the aorta. A large-sized bulbed esophageal sound was introduced into the esophagus down to the obstruction, and an incision about one inch in length made into the lumen of the esophagus directly upon the bulb. With the point of the right index-finger I carefully dilated the upper part of the constriction and found a place where I could secure a hold on the plate with a small sequestrum forceps. It was with some difficulty dislodged and extracted.

I then made an attempt to pass an esophageal bougie into the stomach, but without success, as there was an almost complete stricture some distance below the point where the plate had been lodged. I finally succeeded in passing the point of a slender uterine dilator, by means of which a sufficient opening was made so that a large-sized stomach tube could be easily passed. The upper part of the incision was sutured, but on account of the vomiting during and after the operation it was impossible to prevent infection of the extensive wound, which finally healed entirely by the process of granulation. There was considerable discharge from the wound. Her temperature for a few days reached 101° F., and then gradually receded to normal.

The patient was fed with predigested food, per rectum, for more than a week, after which time milk and beef-tea were introduced into the stomach once a day through a tube. The rectal feeding was continued one week longer. She gained rapidly in flesh and strength. At

the end of four weeks the wound had closed, leaving quite a wide and ugly scar. This was completely removed by injecting a two-per-cent. solution of cocain along the skin margins, and after waiting about five minutes denuding the edges of the skin with a sharp scalpel and dissecting it for about an inch and a half on either side, the margins then being brought into apposition by means of fine silk stitches placed close together. A large-sized esophageal bougie was passed once a week for about two months.

There seemed to be but little difficulty in respiration after the plate had been removed from the esophagus, and no hindrance to deglutition at any time after the fistula had closed. The patient began to enjoy excellent health almost immediately after the operation, which is still her good fortune, almost six years having passed since that time.

MEDICAL PROGRESS.

A New Process of Skin-Grafting.—Wiggins (*St. Louis Clinique*, July, 1899) has attained complete success in skin-grafting by scraping epidermic cells from the sole of the foot. The foot is prepared by a thorough scrubbing, to remove as far as possible the outer layer of epidermis which must of necessity be alive with micro-organisms. This is followed by bathing in strong bichlorid solution; the foot is then covered with moist boracic-acid dressings covered with rubber tissue, which serves, by reason of heat and moisture, to loosen the deeper and more vitalized layer of cells. After twelve hours the dressing is removed and the surface thoroughly scaped with a dull knife. The cell mass thus obtained is placed in a mortar which in turn is placed in a water bath at a temperature of 110° to 115° F. and stirred until thoroughly desiccated. This procedure triturates and further separates particles, and divests them of all moisture, so that they will better adhere to the moist surface of the ulcer. It is readily understood that in a certain space where by the ordinary method there is but one graft, by this method there will be perhaps 1000, and on account of the minuteness of the cell or cells, the chance of their living is increased. The dangers which a graft is likely to encounter are: (1) excessive secretion which will wash it from its anchorage, and (2) the formation of exudate between the graft and the granulating surface which will prevent union and result in the death of the graft. These dangers may be avoided in two ways. One may take a piece of ordinary rubber tissue, perforate it, leaving the holes at intervals of one-eighth of an inch, and cover with it the entire surface. Through these holes islands of granulation tissue will protrude about one-quarter line above the surface, each independent of its fellow. The intermediate pressure serves to render the projecting points more vascular, and thus facilitates union with the grafts.

Another method consists in marking off a space of granulating surface around the entire circumference one-half to one-quarter of an inch wide and sowing this field with desiccated epithelial cells, over which strips of rubber tissue are laid, extending about one-half line beyond the margin of implantation. The center of the ulceration is then filled with strips of gauze and dressings are applied in the usual manner. If the surface to be covered is less than two inches wide, these special methods of procedure are not necessary and the epidermic cells can be spread completely over the granulating area. The results which Wiggins has obtained have been most satisfactory. An ulcer one inch by one and one-half inches may be entirely covered by a thin film of organized tissue within twenty-four hours, and within ten days it may be impossible to discriminate between the old and the new structures.

A New Method of Treating Echinococcus.—Garee (*Centralbl. für Chir.*, July 15, 1899) mentions three cases of echinococcus of the liver in which he followed the method of Bobrow, scraping out aseptically the contents of the cysts, closing them with a continuous suture, and returning them to the abdominal cavity. The first operation was followed by the formation of a fistula but inside of a month the patient recovered so far as to be able to walk about and to return home. In the second case an enormous cyst of the left lobe of the liver was partially resected and partially sutured and dropped back. Recovery in this instance was prompt, as it was in the third case in which a cyst the size of a man's fist was adherent to the colon, omentum, and liver. A part of the cyst-wall was resected and the remainder sutured. These cases show the possibility of obtaining primary union of echinococcus cavities after the contents have been removed. The chief objection to this method, according to the writer, is the danger of leaving behind some of the infectious material if the cyst is exposed with difficulty or if daughter cysts are present. In the fourth case Garre punctured through the rectum an adherent cyst in the pelvis and injected into it a solution of corrosive sublimate. One year later no trace of the tumor was to be found. This method of treatment is only recommended in case the adhesions completely shut off the peritoneal cavity.

Malaria of a Pernicious Form Cured by Hydrotherapy after the Failure of Treatment by Quinin.—Lemoine and Veuillot (*Le Nord Méd.*, July 15, 1899) relate the history of a patient aged thirty-one years, who suffered from malaria of an aggravated type. Chills and fever occurred irregularly and were only temporarily and partially relieved by the administration of from 30 to 60 grains of the sulphate of quinin per day. Hypodermic injections of quinin and of cinchonidia were equally unsuccessful. Things had gone on in this manner for three months and the patient had lost all appetite and vomited almost all food. The medicine was discontinued and the patient was subjected daily to treatment by a stream of cold water directed upon the chest, arms, back, and legs. At first the douche was given for only ten seconds, but the time was gradually increased until it lasted a minute. The temperature of the water was 45° F. The chills and fever disappeared almost immediately, the general condition began at once to improve, and in a short time the patient was entirely well.

Paravaginal Hematoma—Voiturez (*Centralbl. fur Chir.*, July 15, 1899) describes the paravaginal space as

lying between the outside layer of the tunica vaginalis of the testicle and the inner layer of the tunica fibrosa. This paravaginal space may be the seat of a hematoma as has long been known. A predisposing cause is the presence of an old varicocele or hydrocele. The immediate cause is usually a trauma, such as a blow or a fall, although a hematoma may be caused by the needle used to tap a hydrocele. Paravaginal hematomata have usually an irregular, oblong shape. They vary in size and may be as large as two fists. In vaginal hematoma the testicle and clotted blood form one mass, but in paravaginal hematoma they can usually be distinguished one from the other by palpation. Spontaneous cure is not likely. Usually the blood remains encapsulated and the surrounding fascial layers thicken; or infection may take place with suppuration. If the patient is seen in the early stage, an incision should be made to evacuate the blood-clots and the wound should be treated by pressure and a drain until it heals. If the hematoma has existed for a long time and its walls are thick, they should be resected as far as possible. If a hydrocele is also present this should be treated by the open method.

A New Method of Expelling the Placenta.—Budberg (*Centralbl. für Gyn.*, July 29, 1899) recommends the following modification of Credé's method of expelling of the placenta. The patient's attention should be distracted in order to secure relaxation of the abdominal muscles. After slight rubbing movements, the hand of the obstetrician sinks gradually deeper until it grasps the fundus as much on the posterior wall as possible, the thumb being directed forward. With the other hand the lower portion of the uterus is seized in such a manner that the ulnar edge of the palm lies against the symphysis. Expression should begin with a pain and increase during its continuance. The two hands should be pressed together, harder and harder, as the pain increases and as it passes over the pressure should be gradually lessened and not suddenly removed, even though the placenta is expelled in the meantime. With the upper hand rubbing movements are to be made as they were made at first. It is claimed for this method of expression that it does not move the uterus out of its normal position, but rather fixes it in that position, so that there is no danger of tearing the ligaments or the peritoneum of Douglas' pouch; nor is inversion of the uterus possible. This method of expression also empties the urinary bladder.

A Self-Retaining Drain for Empyema.—Felkl (*Prager Med. Woch.*, July 6, 1899) describes the use of a special form of drain in empyema. He took a short glass tube, flattened it slightly, and at a point where the ribs would press upon it, indented its sides, thereby making a shallow groove. A rubber tube of the same diameter as the glass tube was drawn tightly over it. The groove was plainly shown through the rubber. The diameter of the glass tube was 8 |mm. (⅓ inch) and the length of the rubber tube 35 cm. (14 inches). The portion which projected inside the chest was furnished with numerous fenestra. The patient was not inconvenienced by the slight pressure of the drain between the ribs and owing to the accurate closure, drainage was perfect and in less than two months the wound had entirely healed. No irrigation was employed.

Slipping of the Intraperitoneal Ligature.—Sutton (*Buffalo Med. Jour.*, August, 1899) says that the slipping of a ligature placed upon an exposed vessel is due either to careless application or to giving way of the knot. The latter possibility may be ignored when silk is employed. A catgut knot in the peritoneal cavity may slip. For this reason when several blood-vessels are ligated together, he always uses silk. No matter how carefully tied, a ligature may slip off a mass of tissue, or, more properly speaking, part of the constricted mass, especially that which contains the artery, may retract from the ligature and so give rise to hemorrhage. In order to avoid this unfortunate accident, it is necessary to leave a sufficient stump for the ligature and before the ligature is applied a groove of crushed tissue should be made in the stump by means of a pair of heavy clamps. When this is done there is no danger of the ligature slipping off. Tying tissue *en masse* is not surgical and endeavors should be made in all cases to tie the arteries themselves. Doyen's crusher may serve a useful purpose in all cases where it is not possible to apply a ligature with safety; but one ought not to rely on it to the exclusion of sound surgical methods.

The Micro-organism of Scarlet Fever. — Class (*The Sanitarian*, August, 1899) has found, as he believes, the micro-organism of scarlet fever. It is a diplococcus resembling, as ordinarily seen on freshly made slides, a large gonococcus. The size varies somewhat but it is always considerably larger than the ordinary pus-microbe. Usually these cocci occur in bunches of from ten to fifty. Streptococcic forms are occasionally met with. The organism has no capsule. It does not show any spores, has no flagellæ, and under examination by the hanging-drop it does not show any independent motion. It is decolorized by Gram's method although not to the same extent as the gonococcus. The germ described has been cultivated from the scales in about thirty typical cases of scarlatina. It has also been found in the angina of scarlatina, and in cases of angina occurring in persons exposed to scarlet fever in whom no eruption shows. The writer also found it in the throats of children in a family, one member of which had scarlatina although the children were well at the time the culture was made. Subsequently these children developed scarlatina and the germ was cultivated from their scales. Class hesitates to say that this is the specific germ of scarlet fever. He is making further experiments along the same lines. A culture of the micro-organism injected into the ear veins of swine has produced a disease closely resembling scarlatina in the human being. From the blood and scales of the inoculated animal the same organism has been isolated. The germ will not grow in agar-agar nor in bouillon. Class used a glycerin agar-agar to which was added a thin paste containing five-per-cent. of dried and sifted garden earth mixed with bouillon and boiled.

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SATURDAY, SEPTEMBER 16, 1899.

SIMPLE ROTATION OF THE BODY FOR VOLVULUS.

Volvulus is usually so serious a condition, frequently requiring operative interference, that a heroic method of treating patients who have symptoms of the condition seems well worth noting. Dr. G. H. Hunter in the London *Lancet* for August 19, 1899, reports four cases in which the simple rotation of the body of the patient around its long axis while in the horizontal position brought almost immediate relief of the symptoms, especially of the pain, and eventual recovery without further treatment.

Of course there always remains a certain amount of doubt as to the real lesion that has existed in the intestines of patients who recover without laparotomy. Dr. Hunter's cases as described, however, presented symptoms that would ordinarily be considered amply sufficient to justify his diagnosis of volvulus, and if it were not volvulus, then a method of treatment that will relieve pain in certain obscure abdominal conditions as promptly and as completely as this deserves to be given a thorough trial.

The patients are asked first to gently make a half turn to the right or to the left, keeping themselves as far as possible in the horizontal position. If the pain is greatly increased by this half turn, then the patients are asked to turn the other way until three or four complete revolutions of the body are made. The relief of pain is almost immediate and is usually appreciated after the first turn. Dr. Hunter suggests that the method may be of use as an aid to diagnosis in suspected cases of volvulus. If a half turn of the patient to the right or left causes increase of pain it may be concluded that some twisting of the intestines with consequent congestion and cramp is the explanation of the abdominal symptoms complained of, the rotation making the condition worse.

LEGAL REGULATION OF BARBERS.

It is a well-known fact that certain very troublesome, though fortunately not very serious skin affections are easily and very commonly acquired in barber-shops. The number of chancres of the face and lips reported every year as acquired during the shaving process, is, especially in European countries where syphilis is more general, continually on the increase. Last year we called attention to the fact that in Austria and a little later in Germany, a law had been passed requiring barbers to know the general features of asepsis and making compulsory its enforcement in the regular barber-shops. Other countries followed the good example thus set, and now we note with pleasure that the Province of Quebec has passed a law, which goes into effect almost immediately, which promises to effectually limit the possibilities of the spread of infection through the medium of the barber-shop. A noteworthy feature is that all barbers before they take up the practice of their trade must present the certificate of a physician in good standing that they are not suffering from any contagious disease. Besides this they must pass an examination showing that they possess a knowledge of the proper method of disinfecting their implements and sterilizing their towels and hands.

We can readily understand that such a law, unless hedged in by most careful precautions, may be abused by labor unions for purposes not conducive to public utility. The principle involved in the law, however, is so thoroughly commendable that even this risk may be calmly faced. It is besides in perfect

accord with the modern advances in preventive medicine. Patrons will submit to a barber's manipulations with a feeling of greater security when they realize that intelligent efforts are made to keep implements and towels and hands reasonably sterile. Many who now hesitate to use public barber-shops will be given confidence in them, so that the extra expense involved in the observance of the law will be more than repaid in the ordinary course of business.

TRUSTS AND MEDICAL CHARITY.

THE Lord Mayor of London called attention in a recent letter to the English press on behalf of the Metropolitan Hospital Fund to a matter which has already been publicly mentioned in England more than once. It is the loss to charity and especially to hospital funds generally of many generous contributions, because many of the old and wealthy firms have been turned into limited liability concerns which have no power to contribute from their corporate income to purposes of charity. The London *Lancet* says with regard to the matter: "It is of course no part of the duty of the directors of such companies to propose that any part of the dividends should be set aside for charitable purposes, but it is possible and even probable that if the Lord Mayor should address a letter to such companies asking for subscriptions to the Hospital Fund the matter would be discussed at the meetings of the directors and a donation granted."

We have not as yet heard any complaints in this regard in this country. It seems probable, however, that in the present fad for the organization of manufacturing concerns into trusts in order to reduce the fixed charges, that one of the fixed charges that will suffer from the new economy will be the contributions to hospitals. Proverbially corporations have no souls and the larger they are the more completely material do they seem to become. Let us hope that in the reorganization ensuing in so many large interests the claims of the hospitals which do so much for their workmen will not be forgotten. More than this let us hope that the managers of public institutions will at the first sign of a falling off in contributions as a consequence of trusts and consolidations make such representations as our London contemporary suggested to the proper authorities and so prevent their efficiency from being even temporarily impaired by an oversight.

NEW AIDS IN THE EARLY DIAGNOSIS OF TUBERCULOSIS OF THE LUNGS.

THE interest aroused in everything connected with tuberculous disease by medical and popular movements for the treatment of the affection in sanatoria and by the recent Congress on Tuberculosis at Berlin has only made more emphatically clear certain old and well-known points with regard to the disease. It is now universally conceded that there is no pharmaceutical specific for tuberculosis and that even climate and altitude, for so long supposed to have a certain specific curative effect, are only especially favorable elements in the general hygienic conditions that constitute the best treatment up to date. It has, however, become clearer than ever that treatment to be successful (and it can be completely successful in opportune circumstances) must be begun early. Early diagnosis is the all-important factor for the cure of pulmonary tuberculosis. It is much more essential for the patient than any studied dietary or régime in ideal conditions of light and air that his physician detect the disease at its very outset. Every aid to diagnosis that promises even a modicum of assistance in the delicate question of the detection of an incipient tuberculous process in the lungs must be familiar to the conscientious physician who takes on himself the responsibility for these cases. It is no longer enough to be able to apply with advantage the ordinary methods of physical diagnosis or even to detect bacilli in the sputum. There are certain other aids that it would seem every physician who sees many of these cases should be familiar with.

Two of them have been brought into such prominence recently that it seems advisable to call special attention to them once more. At the recent meeting of the American Climatological Association in New York City an animated discussion brought out the fact that laryngologists believe that there is often present in incipient tuberculosis a condition of the larynx which, while not pathognomonic of the disease, always should arouse active suspicion and lead to careful examination of the lungs. This is not a tuberculous laryngitis, but is an anemic condition of the mucous membrane of the larynx in which the membrane itself seems thinned and almost atrophic, and blood-vessels stand out prominently in it. Dr. Lenzman, in the June number of the *Therapeutische Monatshefte*,

calls attention to this characteristic pale appearance of the laryngeal mucous membrane, and says that it may also sometimes be noted on the soft palate and even on the hard palate. The anemia of the larynx sometimes gives rise to a dry, irritative cough. It is the cough that patients come to be treated for, and it is possible that the laryngeal appearance might be considered sufficient to account for it, especially as it is not a productive cough. On the contrary, the laryngeal condition seems to be a reflex nervous interference with the blood-supply of the larynx consequent upon the pulmonary affection and it is the pulmonary condition that demands attention.

At the same meeting of the American Climatological Association Dr. Francis H. Williams of Boston called attention to the fact that the Röntgen rays may be of great service in revealing incipient consolidation at the apices of the lungs before it is demonstrable by the ordinary physical signs. He pointed out also that the excursion of the diaphragm on the affected side is usually less than that on the sound side very early in the disease. Dr. Cabot of Boston, in the issue of the MEDICAL NEWS for April 15, 1899, called attention to the utility of Litten's phenomenon in revealing this same impaired motion of the diaphragm on the affected side. The excursion of the diaphragm may be seen in many cases by simple inspection to be distinctly lessened without the expensive apparatus necessary for the X-rays.

These laryngeal and diaphragmatic phenomena have not been called especially to the attention of the general profession before, and it would seem as though they may prove of distinct service in confirming other suspicious signs in the early stages of pulmonary tuberculosis when diagnosis is often so very difficult and yet so very important.

ECHOES AND NEWS.

Dr. James Campbell of Hartford has resigned the professorship of obstetrics in the Yale Medical School.

The Volta and Galvani Historical Relics.—It is now definitely settled that the fire at the Electrical Exhibition at Coma in Italy entirely destroyed most of the relics of the work of these, the original electricians. Only Volta's pile and some letters and manuscripts remain of the very interesting collection that was sent to the exhibition.

Tri-State Medical Society of Alabama, Georgia, and Tennessee.—The eleventh annual meeting of the Tri-State Medical Society will be held at Chattanooga, October 24, 25, and 26, 1899. Those desiring to read papers should send titles to the Secretary, Frank Tresler Smith, M.D., Chattanooga. The indications are that the meeting will be large and successful.

Death of Karl du Prel. — The death is announced of Karl du Prel, the German spiritualist, who up to 1872 was a captain in the army, and who retired in that year to devote himself to literature. He wrote many books in behalf of mysticism, and had many savage controversies with medical men, who had no difficulty in showing that his delusions were due chiefly to his ignorance of mental pathology.

Many Soldiers Ill. — The New York *Evening Post* of September 9th states that in General MacArthur's Division in the Philippines 36 per cent. of the officers, and 25½ per cent. of the enlisted men are ill. This includes the sick in quarters and those sent home. Eleven per cent. of the men sick in quarters are suffering from dysentery and malarial fevers. The *Post* vouches for the accuracy of this statement which it declares the censor has refused to telegraph.

Recovery from the Bite of a Gila Monster.—A snake charmer at Coney Island not long ago was bitten on the hand by a Gila monster. The bite of the creature is sometimes fatal and always serious. The immediate application of a tight bandage around the wrist prevented the absorption of the poison into the general circulation, while suction by the patient himself, and free bleeding, aided in getting rid of it. The patient recovered without any very serious symptoms and without sequelæ.

Christian Science Held to Be Legal. — Attorney-General Akin of Illinois rendered an opinion on September 9th to the effect that the Medical Practice act of 1899 does not prohibit the treatment of disease by mental or spiritual methods by Christian Scientists or others, when no medicine is used, and that when a person dies under such treatment it is not an offense under the criminal code of Illinois. Attorney-General Akin is not the first legal luminary who has not been able to separate medicine and pseudo-theology.

Italy's Plague Serum.—For three years the Institute of Hygiene at Messina, Sicily, has paid, under the direction of Professor Terin, much attention to the study of the plague bacillus and to the production of a special serum. Professor Terin and his colleagues have great faith in the qualities of the serum, and two of his assistants, Drs. Bandi and Stagnitti, have gone to Oporto for the purpose of using it in that city. The authorities of the Messina institute believe that their serum and the vaccine produced in their laboratories will give results superior to the same preparations furnished in France and Germany.

Hospital Corps Men Needed. — The work of providing hospital corps men and trained nurses for the enlarged

Philippine army continues to give Surgeon-General Sternberg and his colleagues some concern. According to the calculations of the medical officers at the War Department, it will be necessary to have an aggregate of 2000 hospital corps men ready for service when the fall campaign opens. At this time nearly 1000 of these remain to be enlisted. Special efforts are being made to secure good men for this service, but the recruiting is progressing very slowly, owing to the desire to enlist in the volunteer infantry regiments.

Memorial to Plague Martyr.—We noted some months ago the death of Surgeon-Major Evans of the British India Military Medical Service from plague contracted while performing autopsies on the bodies of victims of the bubonic plague. It is now announced that the fund raised to commemorate his untimely death will suffice not only to erect a suitable tablet, which was the original intention of the promoters of the fund, but will also be sufficient to establish a small prize in pathology at the University of Calcutta. A fitting tribute this to a brave man, and one calculated to do good by holding up his example for emulation while perpetuating his memory.

Hours of Sunshine per Year.—According to the *Scientific American* these are the number of hours of sunshine annually in various European countries as given by the French Meteorological Bureau at Paris: Spain, 3000; Italy, 2700; France, 2600; Germany, 1700, and England but 1400. The average fall of rain in the latter country is greater than that in any other European country. In the northern part and on the high plateaus of Scotland about 351 inches of rain fall each year, and London is said to average 178 rainy days in the year, and fully ten times the quantity of rain that falls on Paris.

St. Louis' New City Hospital.—The new hospital in St. Louis for which ground has just been broken will when completed cost several million dollars, and will be perhaps the most complete and perfect institution of the kind in the world. The pavilion plan has been adopted and the buildings first to be put up are the central administration building and a few of the surrounding pavilions. It will be some years before all the buildings called for by the plans will be constructed. A clause in the city charter permits one per cent. of all the city revenue to be used for this purpose. This represents at present an annual allowance of $225,000. The plans were drawn after a study of the best hospitals of Europe and America.

A "Power" Brake for Trolley-Cars. — The New York State Railway Commission is carrying out a series of tests on Lenox avenue, this city, to determine the efficiency of certain safety brakes. The number of serious accidents, many of them fatal, that take place on street-car lines throughout the country makes the employment of some safety device for the rapid bringing of cars to a stop, an absolute necessity. Hundreds of lives would be saved every year if there was some means of stopping a street-car within its own length. Modern electric cars are so heavy, and are run so rapidly, and carry so many passengers, that it is preposterous to expect an ordinary hand-brake to do effective service on crowded city streets. The present move of the State Railroad Commissioners deserves every encouragement, and we hope that it will result in the enforcement of some regulation requiring the equipment of all street cars with an effective form of power brake.

The Yellow-Fever Situation.—The present conditions of the outbreak of yellow fever are more serious than when we reviewed the subject last week. Up to the beginning of the week 200 cases of yellow fever had been reported at Key West and about ten new cases a day were occurring. A case of yellow fever is reported from Port Tampa, Fla., and the report is confirmed by the autopsy. One case of yellow fever, but that of a malignant type, occurred at Jackson, in Mississippi. Other towns in Mississippi are beginning to quarantine strictly against infected places. At New Orleans no new cases have been reported, and the fever seems well in hand. Four cases of yellow fever were at quarantine in New York City at the beginning of the week. They had been brought North on the steamer "Lampasas" from Key West. One of the cases proved fatal on Monday night, but it is expected as we go to press that the others will recover. The New York City quarantine authorities are carefully watching all passengers from Key West, and are confident that they will keep yellow-fever patients from landing at this port.

Barbarism and Civilization. — Two French officers in Africa have been guilty of conduct which well deserves the attention of the alienist and the student of human evolution. Captains Voulet and Chanoine have been charged with barbarous cruelties to the natives in the French Soudan. For instance, a native was beheaded because he declared he did not knew a road about which he was being questioned. Voulet, it is said, captured eighty natives, among whom he killed twenty women and children. Chanoine burned a village and captured twenty of its inhabitants, ten of whom he killed, placing their heads on pickets. It may be said that such conduct is to be expected of a people which has just for a second time convicted of treason a perfectly innocent man. But for an explanation we must go deeper than this. It is known that English officers, who were considered gentlemen of the finest instincts while at home, committed the most hideous barbarities while in Africa. Dr. Peters, the German explorer, has been while in Africa guilty of unspeakable acts. It appears that it takes many centuries for man to advance from savagery to civilization, while the relapse is practically instantaneous.

Protective Inoculation for Plague.—Of special interest, owing to the present plague situation, is Captain Leumann's report on preventive inoculations against plague at Hubli in India during the past year. Captain Leumann, who was detailed for the purpose of investigating the effects of Haffkine's serum, was very well satisfied with the

results. One of the most interesting things in his report is the fact that those twice inoculated with the serum were much more surely protected from plague than those but once inoculated. The statistics he gives are very striking. The disease was not of a mild type, for in one week the mortality stood among those who held aloof from inoculation as high as 657 per 1000. The town could not be evacuated, and therefore, concurrently with disinfection, unroofing of houses, and segregation, the inoculations were vigorously applied, so much so that in a short time more than 24,000 were inoculated twice, and 10,000 once. The results are remarkable, indicating a protection of 85 per cent. on the whole epidemic, with a figure of from 90 to nearly 100 per cent. for the greater part of the time. The twice inoculated show a record just over 10 per cent. better than the once inoculated.

A Final Word about the Kissing-Bug.—After the excitement and exaggeration indulged in with regard to the so-called "kissing-bug," it seems well to be prepared for any future visitations of the troublesome insect by definite scientific knowledge. This is all the more interesting as it serves as an explanation of certain severe insect bites usually attributed to spiders. At the recent meeting of the American Association for the Advancement of Science Dr. L. O. Howard, United States Entomologist, treated the subject very interestingly and practically. His paper, a brief abstract from which we clip from the *Scientific American* for September 9, 1899, was entitled "On Some Heteropterous Insects Formerly Responsible for Spider-bite Stories." He said that while, after several years of investigation, he had failed to verify by proof even a single case of serious or fatal spider-bite, he found that several bugs belonging to the *Reduviidæ* do inflict painful wounds. He described particularly the *Reduvius personatus*, an imported European species, the *Melanolestes picipes*, and *M. abdominalis*, allied native species, and two varieties of *Rahasus*, and several kinds of *Conorhinus*, all of which occur in this country, and whose bites have often been attributed to spiders. He regarded the "kissing-bug" craze as phenomenal, and largely due to stories told by the newspapers, based upon a comparatively small number of actual cases. It reminded him of the tarantula frenzy that was once epidemic in Europe, with remarkable psychological manifestations, which had thus been reproduced this year in a mild form. Curious instances were told of nervous and even hysterical symptoms that had been produced by simple mosquito bites. The paper was accompanied by an exhibition of specimens and drawings.

The Plague in Portugal.—Up to the end of the second week of September about sixty cases of plague with about one-third that number of deaths had occurred in Portugal. A new case is reported nearly every day. The Portuguese authorities seem to be doing their best to prevent the further spread of the disease. Eight battalions of infantry are patrolling the country in the neighborhood of Oporto, and are supposed to absolutely prevent ingress to or egress from the city except with proper precautions. Dr. Vincente, who was sent by the Spanish Government from Madrid to investigate the plague at Oporto, reports that the prevalent type of the disease is the pneumonic form, and that he considered the epidemic a serious one. This form of the disease is said to be especially contagious. The *British Medical Journal* thus sums up the situation in Portugal: "The disease seems to spread. In one of the Oporto jails a prisoner died of plague. Suspected cases have occurred at Lobrigos, Regoa, San Samedi, and at Tambuija, and Atalaya, north of Santarem, on the railway between Oporto and Lisbon. The populace in Oporto are hiding their sick, not only the plague stricken, but persons suffering from ordinary illness. This is proved by the attendance at the public hospital, where the daily number of out-patients has fallen off. At the Misericordia Hospital the out-patients are only 48 daily, in place of 220. The poor believe that once sent to the hospital on suspicion of having plague that they are straightway poisoned. The only official means of exit from Oporto is now by sea, but it would seem, however, that plague has infected the country beyond the cordon, so that, as so often happens, the soldiers forming the cordon may, as the infected zone is included, become the means of spreading the disease.

The Plague Situation.—Generally the plague is milder everywhere than earlier in the summer. It is to be noted, however, that it has often been remarked before, that toward the end of the summer there is very little of the disease, and then an outbreak occurs in infected spots when cold weather sets in. At Alexandria not more than two or three cases a week are being reported. In Mauritius, during the last week in August, there was a recrudescence of the disease and some forty cases and over thirty deaths occurred. At Hong Kong, according to official statistics for the week ending August 27th, there were fifteen new cases and fifteen deaths. It is officially confirmed that plague exist at Nieuchwang in China. It has been found very hard to understand how the plague succeeded in reaching Nieuchwang which is 1500 miles from the nearest infected port in China, Amoy, and it is feared that other places along the coast may prove to have the disease. The plague situation in Russia is the cause of no little uneasiness in Russia itself, and also to European countries having commercial relations with her. The suspicious disease which recently broke out at the village of Kolobooka, in the Province of Astrakhan, seems to be plague of the pneumonic form. A large number of deaths are recorded, and the matter is considered so important that the Duke of Oldenburg, the President of the Committee for Combating the Propagation of Plague, has gone to Kolobooka, accompanied by a number of medical men. The Roumanian authorities have, in consequence of the news from Russia, closed the Russo-Roumanian frontier, and passengers are allowed to pass only at four of the frontier towns. The Russians have placed military observation posts all along the infected border, and persons from Astrakhan will not be permitted to cross the frontier at all. All goods are being disinfected, and a ten days' quarantine is, in addition, insisted upon.

MEDICAL MATTERS IN NEW YORK.

CREMATION BY LIQUID AIR—TEMPERATURE DURING THE SUMMER—TO EDUCATE THE BLIND AND THE DEAF—LEPER DIES ON BLACKWELL'S ISLAND—VACCINATION OF SCHOOL CHILDREN —COMPTROLLER COLER AND THE CHARITIES.

PLANS for a large liquid air crematory to be established at the Nyack Rural Cemetery, New York, have been prepared. The work will commence at once under the management of Dr. Emmons, President of the American Liquid Air Company, of New York.

The temperature of New York, on the average, has been quite low during the past summer, and the weather has generally been delightful. Other places have fared much worse. London has passed through the hottest summer since its meteorological bureau was established twenty-seven years ago. Chicago has of late been suffering intensely, the thermometer having at times reached 102° F. in the shade.

Richard Young, Esq., a member of the Brooklyn School Board, has proposed to establish classes in the public schools for the education of blind and deaf children. He considers that as there are no schools in Brooklyn for the education of blind children, a part of the public funds should be devoted to this purpose. Moreover, children who, while they are not blind, have defective eye-sight, and are for that reason kept out of school would also be benefited by the proposed classes.

Ling Jug, a leprous Chinaman, died on September 7th in a hut on Blackwell's Island, in which he had lived for two years past with another leper. In 1897 Ling Jug and three other Chinamen were isolated on North Brother's Island. Ling and the companion who was with him at his death got away in a rowboat but were captured and sent to Bellevue Hospital, whence they were sent to Blackwell's Island. This case recalls that of Joe Evans, the leper, who served the twenty-four internes in the "Doctors' Hall" at Charity Hospital. He sold them cigarettes, stamps, etc., prepared their bichlorid baths, and was in constant attendance upon them. His case was one of leprosy well developed. His propinquity seems to have hurt no one.

Health Board President Murphy's instructions that the school law concerning vaccination must be strictly enforced, is bearing fruit. Two new vaccination schools have been opened, at 68 Elm street and in the Board of Health building, at Sixth avenue and Fifty-fifth street. The physicians at both these places have been busy attending to the many comers. The law states that "every child of school age who has not been vaccinated within six years, must submit to the operation under penalty of exclusion from the city schools." All precautions are taken by the Health Board physicians. In every case a new needle is used to scratch the arm, and by means of a fresh, unused splinter of wood the virus is spread over the wound. While the Health Board facilities are intended primarily for children about to enter school any one who desires may take advantage of them. In 1898 there were vaccinated 521,747 persons, and no doubt the number will be increased this year.

At the meeting of the Board of Estimate on September 7th, Comptroller Coler presented a report favoring several important changes in the disbursement of city funds among private charitable institutions. Copies of letters of suggestion and advice from the State Board of Charities (which have already been noticed in this column), from the New York Medical League, the Charity Organization Society, the State Charities' Aid Association, and extracts from various other reports are appended to this report, together with tabulated statements from the institutions themselves, the whole making a pamphlet of 100 pages. The report refers to the passage in 1894 of a constitutional amendment providing that the Legislature might authorize, but not compel, public support for private institutions. This amendment was intended to stop the custom, which had obtained among private charitable institutions, of going directly to the Legislature instead of to the Board of Estimate for public help. It was not, however, retroactive. The report further points out that the Stranahan amendment to the charter is destined to revolutionize the relations existing between the city treasury and private eleemosynary institutions. It authorizes the Board of Estimate to appropriate money for the aid of private charitable organizations and to increase or diminish the amounts of such aid regardless of the recognition which any institution may, or may not, have obtained from the Legislature and regardless also of the amounts fixed in prior budgets. Since the passage of this amendment the Comptroller has been investigating the subject of municipal aid for private charities. In 1898, it is shown, the city expended $2,334,456.49 for prisoners and public paupers, and $3,131,580.51 for paupers in private institutions. As compared with the latter figures Chicago expends $2796; Philadelphia $151,020; St. Louis, $22,579.30; Boston, nothing; Baltimore, $227,350; Cincinnati, nothing; Cleveland, nothing; New Orleans, $30,110; Washington, nothing; Detroit, $194,500; Milwaukee, nothing; Newark, $7,500; Jersey City, nothing, and Minneapolis, $2000. About 21 per cent. of the cost of the maintenance of dependent children is borne by private benevolence in New York, while 97 per cent. is so borne in Philadelphia.

The Comptroller suggests that all appropriations of public funds for charitable purposes should be made only from the budget, instead of, as now, from the Excise Tax Fund and the Theatrical and Concert License Fund; and that the appropriations be made upon a uniform pro rata basis, all accounts of the institutions receiving aid to be kept so as to show the receipts and disbursements of public money separately, the disbursements being solely for annually recurring expenses of "care, support, and maintenance." There is at present no such basis for appropriations. The report states: "Eighteen institutions caring for dependent children are paid per capita $2 per week; sixteen are paid 25 cents per day; one is paid $104 per annum, and three $110 per annum. Four medical charities receive for infants 38 cents per day per capita; two receive $10 per month. Three lying-in hospitals receive for mothers, $18 per month; two receive $5 a week and one receives $12 a month. One receives $15

for each obstetrical case, and five receive $25. Three hospitals receive $1 per day for each patient, while three receive that amount only for surgical cases, obtaining only 70 cents per day for medical cases. Three reformatories receive $110 per annum; one $150 per annum, and one $2 per week. Seventy institutions receive appropriations aggregating $350,000 in bulk, *i.e.*, upon no basis of payment for actual service performed. It may be doubted whether the spirit of the constitutional provision prohibiting the donating of public money in aid of private individuals and corporations (with an exception in favor of the support of the poor) is complied with in the case of the appropriations made in bulk to institutions, regardless of the quality or extent of the services rendered in consideration thereof. Furthermore, if the charitable work performed by an institution is of such a character as to make it impossible to measure the value of the services rendered to the city, it may well be doubted whether that work can be of such a character as to warrant the donating of public funds.

"An examination of the returns made by institutions receiving appropriations in bulk from the city treasury, shows that many of them are using the public funds for purposes not authorized by the Constitution. The Constitution authorizes payments to be made for 'care, support, and maintenance.' The reports of a large number of institutions show the money annually obtained from the city carried forward wholly or in part as surplus. Different uses are made of this surplus, none of them, however, authorized by law, or warranted by a proper regard of the interests of the taxpayers. In some cases this surplus is used to pay off mortgage indebtedness, in others for permanent additions to buildings or for increase of investments and endowment. In one case the manager of an institution frankly explained a remarkable falling off in disbursements (so great that its charitable activities were almost suspended) by stating that it was proposed by exercising great economy for a number of years to let the city's annual appropriations accumulate into a respectable building fund. The flagrant nature of this abuse is so apparent that argument is unnecessary."

The resolution appended to the report provides that all institutions receiving public money shall at all reasonable times be open to the visitation and inspection by representatives of the Public Charities and Finance Departments, and that payments of appropriations may be withheld by the Comptroller if it appears to him to be to the public interests thus to do. Appropriations for dependent children receive special attention in the report. It is stated that 69 per cent. of the money appropriated for private charity in 1898 was for children. There were 50,638 children, or one for every 68 of the city's population cared for in private institutions at the public expense. The report quotes at some length passages from "American Charities" by Amos G. Warner, pointing out the evils of institutional life for young children, and emphasizing the necessity of the most careful administration of any institution caring for any considerable number of children of one age. As a guard against caring for children whose parents or relatives are able to undertake the charge, it is proposed to increase the system of inspection by the Examiners of Dependent Children, and to inaugurate the employment by the institutions of one visitor for every 500 children, whose duty it shall be to examine into the ability of parents or guardians to take partial or entire charge of their children or wards.

It is provided that no payments shall be made for inmates of any private charitable institutions unless the same shall have been accepted by the Commissioner of Public Charities, as a proper charge against the city, and it is ordered that institutions carrying on industrial enterprises in which inmates are required or permitted to work shall keep records showing the financial results of such work, the methods by which products are sold and whether prices below current or market prices are paid for such products; also, separately, the earnings per capita of inmates wholly or partly maintained by the public funds.

Mr. Coler calls attention to the fact that the New York Medical League has strongly attacked the policy of granting public subsidies to private hospitals and dispensaries, chiefly for the following reasons:

1. That many of the hospitals receiving public money are really business enterprises, the hospitals being merely necessary clinical attachments to medical schools, which would have to be maintained for the proper teaching of students, even if the city contributed nothing to their support, and which are worth more to the medical schools than the cost of maintaining them.

2. That the books of twenty-two hospitals receiving public aid show an annual surplus in excess of the amounts received from the city (*i.e.*, if the city appropriations were withdrawn they would still have balances to their credit).

3. That dispensaries do not exercise proper care in confining their activities to those who are really indigent, but promote pauperism by treating free those who are well able to pay for treatment.

Mr. Coler's report was laid over, and will probably be acted upon at the next meeting of the Board.

CORRESPONDENCE.

THE DIDACTIC LECTURE.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Medical school faculties and university committees are just about to meet to arrange their programs of study for the next scholastic year. The moment seems favorable, then, to present some considerations with regard to the didactic lecture. I was not a little surprised that no one raised his voice in opposition when Dr. Hobart A. Hare of Philadelphia some time ago in the columns of the MEDICAL NEWS saw fit to defend that dear, good, old-fashioned traditional institution in our medical schools.

To tell the plain truth it sadly needs defense, for its quondam supposedly natural defenders, the professors at medical and scientific schools generally, are deserting its standard and openly going over to the enemy; only a few veterans,

old in methods if not old in years, still rally to its defense.

We had the benefit of two pedagogic discussions here in New York City during the Christmas holidays, both of which trenched upon this subject of the didactic lecture in teaching the various sciences. Before the Association of American Anatomists Dr. Holmes of Philadelphia made a suggestion that attracted a good deal of attention and afforded not a little amusement. If the didactic lecture, he said, be considered absolutely necessary a committee of the best professors of anatomy in the country should be selected to draft an ideally compiete and up-to-date set of anatomical lectures which the most taking elocutionist of the Association should talk into a phonograph and then replicas of the cylinders be sent to the various schools for use. If we must have the regular hour's talk so many times a week for the long-suffering medical student then this suggestion is deserving of serious attention.

In the discussion that ensued no one had anything good to say of the didactic lecture. Professor Burt Wilder of Cornell thought it had been and is yet overdone. Professor Gerrish of Portland, Me., thought it still has a place, but a very limited one, and that in a different form and with different aims from those which it is now thought to have. Professor Huntington of Columbia thought that the only place left for the didactic lecture is as a preparation for demonstrations to come, but not as a supposed means of conveying information by itself.

At the joint meeting of the affiliated scientific societies the subject for discussion was advances in methods of teaching science. Dr. Conklin, Professor of Zoology in the University of Pennsylvania, said that the merely didactic lecture is a thing of the past. The value of teaching in science is directly proportioned to its contact with the living sources of scientific progress. Demonstrations and laboratory work with original research even for the undergraduate are the needs of the hour. Dr. Huntington, Professor of Anatomy at Columbia, filling out what he had previously said before the Anatomical Society, declared that object-teaching has replaced theory. Demonstrations, and those to small numbers of students, so that personal attention can be given to each one are the key-notes of the modern method of teaching anatomy. Dr. Porter, Associate Professor of Physiology at Harvard University, outlined a course in physiology in which experimentation had the most prominent place and very little room was left for the didactic lecture, practically none for the lecture as a lecture, but only as a preparation for experiments or sometimes as a historical résumé of the subject. At the end of his paper he epitomized the subject in the following striking manner: "We cannot hope to escape (in this suggestion of reform in medical education) what Bismarck has called the phrase watering-pot. We shall have urged against us certain sanctified expressions such as the accumulated wisdom of centuries. Let us answer that the system by which we now teach anatomy and physiology (may we not insert here, all of medicine?) began as a makeshift and has become a dogma. It is sanctified by some centuries of repetition, not of experience, for systematic experiments in medical pedagogy have rarely been made; the oracles have been severe with those who meddled with the tripod." I think that these quotations at least justify the assertion that it is not merely medical editors who think that the didactic lecture is a thing of the past.

Dr. Hare quotes Professor Hirst's letter in a recent issue of the *Philadelphia Medical Journal*. Professor Hirst's opinion should carry a great deal of weight. His students, I am sure will, without exception, agree with me that he is the most interesting teacher we have ever listened to. He, of all men, should have a right to defend the didactic lecture. This is what he says: "There is, in my opinion, no greater force in medical teaching to-day than the didactic lecture properly given. The lecturer, however, must be able to impart his knowledge to others; he must be thoroughly familiar with the current world literature; he should have every illustration which appeals to him as instructive or interesting reproduced in large size; he should have every instructive case of his own photographed or drawn from life and should have these illustrations enlarged; models should be purchased wherever procurable; specimens should be collected and preserved for demonstration with indefatigable industry, and all this material should be employed to illustrate the lecture. One of my lectures has cost very nearly $1000 for models, pictures, and specimens, and very few have cost less than $50."

Professor Hirst's lectures are not didactic lectures but demonstrations. If the holders of all chairs will illustrate their subjects as unsparingly as Dr. Hirst does his, and take every possible occasion to demonstrate, not to dryly describe, there will be no further need of discussing the didactic lecture.

One of the first lessons in Professor Hirst's course is a demonstration of the coagulum of milk when mixed with rennet. Do any of his students ever forget the flocculent coagulation of human milk, the almost similar coagulum of diluted cow's milk, the thick curds of undiluted cow's milk? One of his last lectures in the course is a demonstration of symphyseotomy on the cadaver. *Satis superque dixi*, there is no need to defend such didactic lectures; they really merit the adjective didactic, for they teach. Though opportunities be invitingly open for the illustration of lectures as Professor Hirst suggests how few of them are taken. Many professors do not seem to have interest enough in their courses to even prepare suitably the current lectures, let alone plan for future ones.

Professor Hare thinks that the popularity of lectures upon history, literature, art, and travel attests the fact that people enjoy and learn much by attending them. As to enjoyment it may pass, though I think the allusion unfortunate since there is nothing in the world less enjoyable than the didactic lectures delivered in most medical schools. It is only a lofty and sadly mistaken sense of duty that brings students to most of them at all. As to what is learned from *popular* lectures the educational world is pretty well agreed that a certain amount of information, often of a most useless, disconnected, and undi-

gested kind, is gained, a heap of conceit is accumulated and a supposed scientific or other basis obtained on which to build the most inane theories if any attempt is made to develop or apply the knowledge thus acquired. A lecture is well enough to communicate a few interesting facts whose acquisition may be displayed brilliantly in conversation, but think of teaching a man to build a locomotive, or the still greater absurdity of fitting him to repair one, by a series of lectures!

Finally Professor Hare thinks that there is no better stimulus than to follow the lecture courses of certain men, and mentions two honored names that will ever stand out in the annals of American medical pedagogy, Agnew and DaCosta. These and such as these are the exceptions that occur to every rule,—men of the widest learning, of magnetic personality of far-reaching personal influence, and a great gift for teaching. Wherever there are Agnews and DaCostas they will be listened to with interest, but I doubt if even these men themselves, thoroughly in touch as they ever kept themselves with the existing needs of medical teaching, would lecture now as much as they did in their day. Billroth, during his time the most interesting clinical lecturer in Europe, gave up the didactic lecture toward the end of his life, after giving it a very fair trial, because he found he could not interest his students.

This subject of the didactic lecture was discussed at the German Medical Congress at Wiesbaden last April, and as the representative of several American medical journals I gave it special attention because of its present interest to Americans. In the German universities very, very few didactic lectures are given. After the preparatory sciences, anatomy, physiology, etc., have been completed there are no didactic lectures on which attendance is compulsory. The state of opinion regarding them is very clear. A few of the old men like Von Ziemssen of Munich still think a regular course of didactic lectures desirable. Most of the old men, however, do not give didactic lectures and it is their influence that keeps the lectures from having an important place in the universities. All of the young men seem to agree with Von Jaksch, who takes high ground against the didactic lecture.

Didactic lectures are still popular in France, but they are very different from what we know as the didactic lecture. They are finished studies, in a classic style, of some up-to-date subject in which all the recent material is accumulated, the newest theories discussed, the conclusions on doubtful points suggested, the probable future development of the subject outlined. Read Professor Raymond's lectures on the muscular dystrophies, or Landouzy on serum-therapy, or Marie on nervous diseases, especially on tabes; or Widal's lectures (if they are published) on pericarditis, or Debove on any subject, and the realization is not long in coming that there is a place for these didactic lectures. They really show that familiarity with the current world literature which Professors Hirst and Hare demand, but such lectures in regular courses are delivered nowhere outside of France.

The subject of medicine has become so vast that it is folly to attempt to teach all its infinite details even to the most willing medical student. The idea of pumping into him by means of the didactic lecture a mass of information that he has not the time to digest and assimilate and then expecting him to apply it practically is a serious mistake—it is more than that, it is a mortal sin against the good rules of modern pedagogy. President Eliot of Harvard has well said, "We must educate for power, not for information." We must train people in habits of scientific investigation, train them in the exact scientific method, train them so that they may develop themselves, not load them down with infinite details of too often useless information. In the other sciences this ideal is being realized more and more. The last few years have seen great advances along these lines in the teaching of the medical sciences. It has seemed to us on the outside, however, as though the progress of reform in the teaching of medicine is impeded by the interested motives of certain professors who foresee their occupation gone if once it is generally conceded that the didactic lecture is a thing of the past, or who realize that much more time will be demanded of them, that the newer methods must be learned, that their ease and comfort will be seriously disturbed, and that the present convenient method of thinking out in the ten minutes that one spends in his carriage on the way to the lecture-room what is to form the mental pabulum of some hundreds of students for an hour or more must be given up for hours of serious thought and reading on what is latest in medicine and on how best to advance the teaching of medicine.

JAS. J. WALSH, Ph.D., M.D.
1973 SEVENTH AVENUE,
NEW YORK, September 9, 1899.

OUR LONDON LETTER.

[From Our Special Correspondent.]

MOSQUITO EXPEDITION — POSSIBLE VALUE OF "CAUSTIC" ETHER RAYS—NEGLECT OF PATIENTS IN POOR-HOUSE INFIRMARIES—NEW BUILDINGS OF WOMEN'S MEDICAL COLLEGE—HUMAN VERMIN IN THE PARKS—PRACTICAL ACTION AGAINST STREET NOISES.

LONDON, September 6, 1899.

THAT sturdy little product of "individualism" the Liverpool School of Tropical Medicine has scored another triumph over its cumbrous state subsidized rival and predecessor, the London (Government) School. While the latter is not likely to be in a position to do anything but ask for more money for a month or more yet, the Malaria Expedition of the former has wired back its discovery and identification of the "criminal" species of mosquito (*Anopheles claviger*) and the mapping out of the breeding-places. By the very next steamer another investigator, Dr. Fielding Ould, with additional equipment, will be despatched by the School to reinforce the original party of five. It is to be hoped that the Colonial Office, now that the Anopheles "hare" has been "caught" by private enterprise will have the energy to send out a few experts to help to "cook" it.

A most interesting suggestion has been made by Mansell Moullin in his Presidential Address before the Roentgen-Ray Society in regard to the "caustic" and

destructive rays given off by the radiating bulb. These so far have simply been a source of annoyance by the destruction and almost escharotic changes produced upon the skin of the patient, but the speaker was inclined to believe that in the future they would come to be regarded entirely apart from the X-rays which they accompany as a valuable addition to our therapeutic agents. The powerful catalytic changes which they are capable of setting up in the surface-tissues exposed to them ought, when properly controlled and understood, to prove of yeoman service in the treatment of various skin affections, including lupus and superficial ulcers, especially of infectious origin.

These ether rays are entirely distinct from the true Roentgen rays, and screens which are perfectly pervious to the latter can be used to shut them off completely, so that as an obstacle to future skiagraphic work they can be completely avoided.

The existence of a "Roentgen-Ray Society" among medical men and physicists certainly strikes one as one of the specialist specializations of specialism. No doubt its existence is fully justified in view of the magnificent possibilities of usefulness of the new-found agency and the need for cooperation of several distinct classes of workers in their development but we trust it will not be regarded as a precedent and followed by "sphygmograph Societies", "Cystoscope Clubs" or "Apostali Associations."

Another revolting illustration of the natural callousness and brutality of officialdom if left to itself has just been furnished from Stepney Union Workhouse. Two deaths under suspicious circumstances having occurred within two days, a coroner's jury investigated the matter. The first case was that of a boy aged nine suffering from tuberculous diarrhea. On Saturday afternoon his father came to see him and was informed that he was asleep and he must sit quietly beside the bed without waking him. The poor fellow did so for nearly half an hour when on looking more carefully at his boy, he found to his horror that he was dead. The nurse alleged that she had seen the boy "apparently asleep" only about ten minutes before the father came, but as it developed that she and one other nurse had charge of 100 patients scattered through six wards day and night, it may be imagined how closely each individual case could be attended. The coroner stated that at a former inquest from this institution some years ago, it was discovered that there was only *one* nurse for 800 patients! Now there were six and he thought that at this rate the institution might become a model one in the year 2752 A.D.

The other case was that of a coal-porter, aged 48, who in the delirium of pneumonia had been put in a *straitjacket and tied down with two sheets* for twelve hours, at the end of which time he, not unnaturally, died of "heart-failure due to exhaustion." No doctor had seen him for thirty-six hours before his death as the intelligent attendant felt sure he "was going to die, anyhow." And we are sorry to say that the action of the medical officer calls for prompt explanation of some sort, as all he did for the patient, by his own testimony, at his first and only visit to him, was to order him *into the padded room*, as "it was impossible to administer a sleeping draught" (?)! From this interesting chamber the patient escaped because "*the door was away for repairs.*" We must confess we think the coroner's estimate of future progress in Stepney workhouse too hopeful.

The new buildings at the London School of Medicine for Women, in connection with the Royal Free Hospital, are rapidly approaching completion. The first wing was finished about a year ago and the second is now nearly ready for occupancy, while the third will be built during the coming year. As the school crowded 190 students last year into its one wing and the old remodeled private house in which the school has held its sessions for twenty-four years past it would be seen that the new buildings are badly needed. Nearly $90,000 has been expended upon the building and $60,000 more is needed to complete it.

The prolonged hot, dry weather in London has rendered one public service in aggravating to a point beyond further toleration a nuisance which has been gradually growing and spreading in London for some years past, and this is the invasion of the public parks for lounging, eating and sleeping, day and night, by tramps, "bums," scalawags of every description, male and female. Greasy, filthy, blear-eyed and red-nosed, these unclean beasts may be seen sleeping off last night's stale-beer orgie upon the benches and the grass of almost all the West End parks, with a special preference for the quiet corners and most secluded nooks, where they utterly destroy the beauty of the scene and sweetness of the air. Swarming with vermin and reeking of the two and seventy smells of Cologne, they are an insult and a source of possible infection to every child or woman who enters the park. This is unpleasant enough for adults, but when we remember that Regent's, Primrose Hill, Battersea, and even aristocratic Hyde Parks are the sole exercise-grounds and breathing space of thousands of children of all ages, some with, but the vast majority of them without, nursemaids other than their elder sisters—who ought to be perfectly secure in sitting, rolling, tumbling, and playing upon the green grass it becomes a nuisance bordering upon an outrage. And in no other city than London would it be tolerated for a week, but these vagabonds be free men and British subjects and all such have a right to use and frequent public places.

Now, however, that they have taken to using the parks these hot nights as sleeping places, leaving the grass greasy with their filth and strewn with broken victuals the patient public is showing signs of getting roused and something decided will be done.

Of course, every possible precaution should be taken against interfering in any way with the full and free use of these "Lungs of London" by the poorest of the poor, no matter how shabbily dressed so long as decent and clean, but there ought to be no practical difficulty in drawing up some sort of an ordinance which will give the police power to exclude tramps and vagabonds, of unclean, disreputa-

ble and offensive appearance and odor, a mere handful of whom destroy the comfort, interfere with the enjoyment, and are a source of danger to the health of hundreds of children, to say nothing of women. The mere sight of one of these creatures is enough to spoil all enjoyment of that part of the park for sensitive women and the thought of their previous occupancy of a seat is enough to deter most ladies from making use of it, no matter how fine the day or how tired of walking they may be.

The much-talked of crusade against street noises and their maddening wear upon the modern nervous system has at last found its paladin. Admirable, if a little strenuous, in theory, it has till now lacked the man of action, the Boulanger who could put himself at its head and lead on to victory. Now, however, he has arrived. His name is George Sims, journalist, of Clerkenwell, and in this manner has achieved immortality. A "mission-service" being held in the street before his windows, he endured the sonorous bray of the invocation, the thin, musical agony of the hymn, and the fierce, nasal chant of the preacher till he could bear it no longer. Out he rushed like a lion roused, knocked over the lamp and sat down violently upon the harmonium. Like most other reformer-heroes he landed in the police court. Here, alas, his confidence in his mission failed him and instead of proudly avowing his act and glorying in the noble impulse that led to it, he took refuge in most inartistically unprobable excuses. He went out to ask the preacher to stop and in the dark fell against the harmonium and accidentally knocked over the lamp. However, the story, tame as it was, "worked," for the magistrate accepted it as gospel truth, discharged Sims and expressed his sympathy with him in his endeavor to "suppress noisy persons." From which we infer that he must have sat upon the preacher as well as the harmonium. Though possibly the wish is father to the thought. Nor was this all, for the court went on to comment severely upon the harmfulness of unnecessary street noices, even though of a religious character. These he denounced as "intolerable and a mistake . . . their intentions are good, but they do not benefit mankind under the circumstances," and with this dictum we think all physicians will cordially agree.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK.

Regular Monthly Meeting, Held May 27, 1899.

THE Vice-President, DR. WILLIAM B. COLEY, in the Chair.

The first paper of the evening was read by DR. EUGENE FULLER, and was entitled

SOME POINTS ON VESICAL NEOPLASMS.

It is only within the last few years that vesical neoplasms have received much attention. Neoplasms of other organs, because more frequent and more readily operable, have been the subject of more study. Then the surgery of the bladder, until recent years was discouraging in its results, and anything like radical operation for tumors of the viscus was considered too risky. Present active study is making up for this neglect in great part and we now know that neoplasms of practically all types, benign, intermediate, and malignant occur in the bladder. Here, perhaps more than anywhere else, has come the realization that certain tumors which in the beginning are composed of elements that would cause them to be classed as benign, may degenerate and become malignant.

Papillomata are the tumors originally benign that most frequently take on this degeneration into malignancy. They are easily hurt and a series of traumata almost always brings on malignant degeneration. Their most frequent sites are in the trigonum and around the ureters and they occur most frequently in males. Vesical polyps resemble nasal polyps in many ways, in their structure particularly and in their tendency to recur after removal. Other benign tumors are comparatively rare. Myomata occur especially in fetal remnants of the ducts of Müller. The tumors are often mixed in character containing also fibrous tissue. They sometimes grow to a large size. The mucous membrane may be destroyed above them from pressure, and ulceration results. Only one case of angioma of the bladder has been reported and that by Albarran. When benign tumors occur in the upper part of the bladder operation is easy and the results very favorable, but unfortunately, they usually develop in the lower part of the viscus where operation is more difficult.

Of malignant tumors sarcomata are rare and develop usually in the young and at the base of the bladder. Though the opposite has been said they seem to occur quite as often in females as in males. Other malignant tumors develop at times as the result of irritation. For instance, a number of carcinomata of the bladder have been noted in the employees of a German aniline dye factory. They took their origin about the orifices of the ureters, which indicates the necessity for careful search especially at these points when looking for beginning neoplasms.

The most constant symptoms of vesical neoplasms are hematuria, pain, and incontinence of urine. Hematuria is the most uniform single symptom. It occurs in 90 per cent. of papillomata, in 80 per cent. of sarcomata, in 75 per cent. of carcinomata. There are cases, however, as may be easily understood from these statistics in which it does not occur at all, so that its absence cannot be used to exclude the presence of a neoplasm. Pain is not of so much importance as a diagnostic symptom. Diagnosis is not, however, very difficult as a rule, when the cystoscope is employed.

Once the presence of a vesical neoplasm is suspected, extreme care should be taken as to intravesical examinations, for infection will greatly complicate the course of the case after operation. Fenwick lays great stress on the advisability of not making an intravesical examination until all is ready for operation.

According to the cystoscopic appearance Fenwick gives the following hints for the diagnosis of the character of the tumor: If the mucous membrane is pinkish above it

the tumor is in good condition, and is usually benign. If the mucous membrane is smooth, the tumor is usually superficial. A whitish appearance of the mucous membrane indicates carcinoma and phosphatic deposits on the surface of the tumor point to malignancy.

In operating for tumors of the bladder the suprapubic route seems in every way the most desirable. For certain friable tumors some have thought of intravesical manipulation without incision of the bladder walls. Nitze has suggested this method by instrumentation through a cystoscopic tube, but a certain risk of subsequent hemorrhage exists for which a suprapubic section may have to be done later. Chismore suggested engaging small polypoid tumors by means of suction, which draws the tumor into the tube and enables it to be twisted off. Dr. Fuller has succeeded in this method once, but besides securing very little if at all, against recurrence, there is the dissatisfaction of working in the dark and the risk of subsequent hemorrhage.

The suprapubic operation gives an especially good field for the control of hemorrhage. In severe hemorrhage the bladder may be packed with gauze. The gauze should be put in in numbered slips so as to facilitate its removal, but there is always some shock on taking them out. The ideal operation is to close the bladder entirely, a practice that Guyon and Albarran introduced, and depend for drainage entirely on a catheter *a demeure*.

Papillomata and carcinomata are so liable to recur that it would seem best in all cases to remove with the tumors a portion of the bladder wall. A resection of the bladder is not considered so serious an operation as it used to be. The mucous and muscular layers may be cut with a scissors with serrated edges so as to avoid hemorrhage as much as possible. An elliptical piece may be removed and then the edges brought together. In all the movable parts of the bladder this procedure involves very little difficulty and practically no risk. In the fixed portions of the bladder it is more dangerous and difficult but it may be accomplished successfully, if proper care be taken.

DR. EGBERT GRANDIN, in the discussion which followed, said that neoplasms in the female bladder are rare. Owing to the relations with the vagina, moreover, they are easier to remove. A T-shaped incision in the anterior vaginal wall with the flaps dissected well back gives an excellent field for operative work on the female bladder.

DR. NOEL said that while irritation sometimes leads to malignant degeneration of benign growths of the bladder, it is sometimes true for villous growths especially, that disturbance of them or removal of a portion of them leads to their entire disappearance. Alcoholic injections into the bladder sometimes accomplish this favorable result of making villous growths disappear. In a recent case injections of alcohol of 20 per cent. and finally of 50 per cent. strength were used. Clumps of villous material were passed from time to time per urethram until finally the growths completely disappeared.

DR. COLEY mentioned a case that illustrated very forcibly the change from benignity to malignancy in vesical tumors. A tumor was removed by Dr. Ferguson from a patient in 1894, and on careful examination proved to be a simple papilloma. It recurred and the new tumor proved to be an infiltrating epithelioma of the purest type.

DR. MURRAY said that in the treatment of vesical tumors in women the great dilatability of the female urethra must be borne in mind. He had just had a case under observation of a nurse who had never menstruated and who proved on examination to have no vagina. She had had sexual relations per urethram but without the occurrence of incontinence of urine. It is evident then, that small villous growths might easily be grasped through a urethral speculum, twisted off, and then their bases touched with nitrate of silver.

DR. FOOTE said that recent German statistics of operations for malignant tumors of the bladder show a high operative mortality, and only very few survivals for any length of time after operation, so that the advisability of operation is questionable.

DR. FULLER said, in conclusion, that general statistics condemn operation, but the work of selected operators must be judged on its own merits. It is only the work done at the Necker Hospital, Paris, that is of a sufficiently high order to give encouraging results. Cases of vesical neoplasms are, as a rule, so hopeless that it is better to do something that promises, even though at considerable risk, some relief from present pain and trouble and some prolongation of life than to sit idly by and talk soothingly to the family. The general statistics of prostatectomy are almost as bad as those of the operation for vesical tumors, yet in certain operators' hands excellent results are by no means rare.

DR. HENRY C. COE being unavoidably absent his paper, entitled

SOME NOTES ON THE INDUCTION OF PREMATURE LABOR,

was read by the secretary, Dr. Walker.

The author said that in reading the text-books and listening to lectures on the subject one would be inclined to think that the induction of premature labor is one of the easiest tasks in medical practice. A certain technic must be employed it is true, but if directions are carefully followed it would seem that there would be no difficulty in exciting the pregnant uterus to contraction, and once begun these contractions made to continue until the uterus is emptied. When it comes to actual practice in this matter there must certainly be some rather disagreeable and disappointing developments as to the ease with which premature labor may be brought on.

Gynecologists generally know now that the pregnant uterus will tolerate without reaction sufficient to produce abortion, an amount of tampering with that would have been thought utterly incredible some years ago. The author related some recent cases in his experience that illustrated this fact.

CASE I.—A multipara, pregnant for more than four months, developed a large abscess behind the uterus. Peritonitis set in and there was high temperature for several days. On laparotomy so many adhesions were

found that the abdominal incision was closed and the abscess drained per vaginam. Quite an amount of offensive pus escaped and hydrogen peroxid and gauze drainage were employed. Despite the surgical manipulations, the presence of the gauze and the occurrence of peritonitis and fever, abortion did not occur at this time but more than a month later when the woman was up and about.

CASE II.—Multipara; pregnant five months. In this case an adherent cyst of the ovary became twisted, and intracystic hemorrhage and beginning necrosis resulted. At the laparotomy the uterus was lifted up and surrounded by hot towels. The operation was much longer than was at first anticipated and sutures had to be taken in the broad ligament and in the peritoneum covering the uterus. The case ran an absolutely afebrile course and no symptoms of abortion supervened. The patient was up and about feeling perfectly well in four weeks. Fetal movements were very active and could be easily felt and seen by the examiner.

CASE III.—Multipara; pregnant four months. Very similar to Case II. An adherent dermoid was removed from Douglas' pouch without producing the slightest uterine reaction. The patient carried her child to full term and had a normal labor.

As a matter of fact, however, these cases of operative intervention involving at least indirectly the pregnant uterus yet without setting up labor pains have become so common of late years that they no longer attract much attention. They serve to show very well the tolerance of the uterus in most cases.

In text-books it is often said that dilatation of the cervix is very liable to be followed by abortion. Nearly every gynecologist has more than once dilated the cervix for obstinate vomiting without producing any such effect. The author never has had abortion occur in his practice from this cause, though he introduces the branched dilator and separates the blades to their fullest extent. In fact unless the membranes are ruptured at the same time he does not think abortion is liable to take place.

The introduction of a bougie is sometimes stated as sufficient to induce labor pains. He quoted a case in which the introduction of a sound followed by intra-uterine faradization failed to produce the slightest effect, and the cervix had to be forcibly dilated and active removal of its contents proceeded with.

The use of Barnes' bags and of the gauze tamponade are the other methods usually mentioned for producing abortion. The bags seem to be going out of fashion of late, at least we do not hear as much of them at society meetings as we used to. The author said that he had had cases, however, in which neither gauze nor bags (nor sometimes both) produced satisfactory labor pains, and the manual or instrumental delivery of the child had to be undertaken after their unsuccessful employment. While they did not bring on labor pains they did produce a dilatation of the cervix that was of the greatest service in the subsequent manipulations.

CASE I.—A multipara. Various sizes of Barnes' bags were introduced and finally the double McLean bag, which the author had often found useful. Some transient pains resulted but without the desired effect of inducing labor. After thirty-six hours of waiting manual dilatation was performed. It was greatly simplified by what had been accomplished by the bags and healthy twins were delivered by podalic version.

CASE II.—Multipara. Three yards of gauze was first packed within the os internum, and then increasingly large sizes of bags were used. Absolutely no pains occurred though cervical dilatation was perfect so that at the end of forty-eight hours manual extraction was carried out and proved very easy.

CASE III.—Multipara. First gauze was inserted and left for twenty-four hours without effect. Then bags were used and left in as long but with the same result. Then manual dilatation had to be done, but as usual after the use of the bags and gauze, was easy of accomplishment. Mother and child both did well.

CASE IV.—Multipara. More than four yards of gauze was inserted into the lower uterine segment. No reaction took place in twenty-four hours; then a large double bag was inserted but effective labor pains were not induced. Manual extraction was extremely difficult in spite of the good dilatation that had been effected. In another case at the fourth month of pregnancy the insertion of a steel sound and then of two yards of gauze produced no effect, not even dilatation, and the uterus had to be emptied manually.

These cases show that as a rule the Barnes' bags and the gauze tamponade are useful in producing softening and dilatation of the cervix, but they often do not bring on effective labor pains. It would seem better then, after these means have been tried without result for thirty-six hours, that the obstetrician should proceed actively to empty the uterus rather than keep the patient and her friends any longer in suspense.

In the discussion DR. MURRAY said that there is no need to excite labor pains, and that in fact rapid extraction can be accomplished better without them especially under an anesthetic. Personally he has been very well satisfied with the effect of a steel dilator and then the Barnes' bags to soften the os. He can tell the time at which he will be able to empty the uterus as exactly as he is able to appoint the time for a laparotomy. For uremia or persistent emesis he dilates under anesthesia with successively larger steel bougies until two fingers can be inserted. He then employs placental forceps, taking special precautions to see that the cornua of the uterus are thoroughly emptied. In a recent case, in a doctor's wife, he employed forcible rapid manual dilatation with excellent results. First one finger was inserted in the os, then gradually the cone-shaped fingers were forced in. After three-quarters of an hour sufficient dilatation was secured and a child weighing 15¾ pounds was delivered alive. He does not believe in the use of gauze but thinks Barnes' bags of great value especially in placenta previa.

DR. GRANDIN said that he was glad to find that the cobwebs of a too insistent tradition are being brushed away from certain important practical medical subjects. In no branch of medicine does tradition count for more

than in obstetrics and in no question does it cause more hesitation as to the proper course to be pursued than in this one of inducing premature labor. There is no need of complicated instruments or apparatus.

Dilatation of the cervix can be produced manually in half to three-quarters of an hour. In placenta previa 85 per cent. of the women and 66 per cent. of the children are saved by this method and there is no other that gives anything like as satisfactory results. The cervix yields to the fingers somewhat as the sphincter ani does, and only patience is needed to secure an entrance. A danger that must always be looked for is post-partum hemorrhage and for this a large gauze pack is necessary. At least ten yards of gauze two inches wide should be packed into the uterus and made to completely fill it, if there are signs of hemorrhage and the uterus has not contracted well.

DR. COLEY presented the specimens from a case of carcinoma of the cecum, which showed some interesting features. The patient was operated on for what was thought to be a chronic appendicitis, but at the operation it was found that a cancer of the cecum existed that had been communicated to an adherent coil of small intestine. The whole of the cecum and about five inches of small intestine were removed. The patient made a good recovery. The interest of the case consists especially in the fact that the carcinomatous process had started in the cecum and had invaded the coil of small intestine that had become adherent to it, an example of the communication of cancer to a contiguous viscus that is sufficiently rare to be worthy of special notice.

REVIEWS.

ON FRACTURES AND DISLOCATIONS. By PROFESSOR DR. H. HELFERICH of Greifswald. Translated from the Third German Edition by J. HUTCHINSON, JR., F.R.C.S., Surgeon to the London Hospital. New York: Wm. Wood & Co., 1899.

THE volume before us is one of the Lehmann atlases, which has in past editions of the original received much well-merited praise. The plates are very well reproduced and are very instructive though somewhat diagrammatic. The translation of the text, a condensed outline of the subject, has been well done by Dr. Hutchinson, but some elementary matter has been altogether omitted. The main value of the atlas lies in the plates and their appropriate descriptive text, and for these the volume may be highly recommended to both physicians and medical students.

STUDIES FROM THE DEPARTMENT OF PATHOLOGY OF THE COLLEGE OF PHYSICIANS AND SURGEONS (Columbia University), New York. Vol. VI.

THIS volume of reprints is taken up mainly by a study on ganglion cells by Dr. James Ewing. It contains, besides, some bacterial studies by Drs. Meltzer and Cheesman, a report of a case of acromegaly by Dr. Bailey, and a readable article on snake poisons by Dr. Langmann.

THERAPEUTIC HINTS.

For Hyperemesis.—

℞	Menthol	gr. iss
	Cocainæ hydrochlorat.	gr. iiiss
	Syr. simplicis	ʒi
	Spiritus	ʒii.

M. Sig. One teaspoonful every half hour.—*Morel-Lavallée.*

Formula for a Creosote Pill.—

℞	Creosoti	parts iii
	Ol. amygdal. dulc. }	
	Sacchari } aa.	parts i.
	Magnesiæ }	

Mix the oil and creosote and rub with the sugar in a mortar. Add the magnesia, mix thoroughly, and let stand for twenty-four hours before preparing the pills.

Paraformaldehyd Collodion in Dermatology.—UNNA recommends this preparation as a caustic for the removal of small cutaneous growths. Paraformaldehyd is not soluble in collodion, but enough is contained in the latter for the purpose indicated. The patient can make the necessary repeated applications himself, as the caustic action is limited and not severe. The area to be covered should be rubbed briskly before the collodion is applied:

℞	Paraformaldehyd	gr. xv
	Ol. ricini	*m.* viii
	Collodii	ʒ v.

M. Sig. External use.

For Herpes Zoster.—

1. ℞ Cocainæ hydrochlorat. gr. iv
Zinci oxidi gr. xvi
Amyli ʒ iiss.
M. Sig. External use.

2. ℞ Ac. borici gr. xxx
Zinci oxidi ʒi
Glyceriti amyli ʒi.
M. Sig. External use.

For Sciatica.—

SIEGRIST of Zürich has found the application of hot moist compresses to afford striking relief in this affection. A piece of flannel is placed in very hot water, then taken and wrung out so that it does not drip. This can be done conveniently by wringing it inside a towel in such a way as to protect the hands. The flannel is then laid along the thigh of the patient—if the skin is very sensitive a layer of flannel is placed under the compress—and the whole covered with several thick layers of dry flannel. The compress is changed in about ten minutes, and the process kept up for an hour or two at a time, and repeated several times a day. The value of these fomentations in many painful affections is well known to students of hydrotherapy, but is not sufficiently recognized by physicians in general. The treatment demands considerable time, and must be skilfully executed in order to gain the desired results.

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ORIGINAL ARTICLES.

THE BACILLUS ICTEROIDES: A REPLY TO DR. SANARELLI.

BY F. G. NOVY, M.D.,
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IN the issue of the MEDICAL NEWS for August 12, 1899, Dr. Sanarelli has endeavored to controvert various statements made by myself and others relative to his bacillus icteroides. No one can object to his taking such action, but it is to be regretted that he believes a personal element has obtruded itself into the controversy "as a result of the attitude assumed by Dr. Sternberg," or any one else. Actuated by this belief my eminent colleague has abandoned himself to a mode of thinking and a style of writing which is deservedly questionable in a great discoverer. A scientific publication is open to doubt and criticism as well as to unquestioning acceptance. This is especially the case when such publication does not carry within itself a complete and perfect chain of evidence.

A study of the several lengthy and painstaking memoirs published by Dr. Sanarelli failed to convince me as to the correctness of his claim and it may not be out of place to remark that some workers in other countries have formed similar conclusions. Thus, Professor Carl Fraenkel of Halle, commenting upon the investigations of Foà and of Sanarelli (*Hygienische Rundschau*, p. 1000, 1898), expresses his grave doubts as to whether the bacillus icteroides is really the cause of yellow fever. More recently, the same authority (*Ibid.*, p. 633, June 15, 1899) expresses himself to the effect that my conclusions agree fully with his views. Similar doubts as to the validity of Dr. Sanarelli's claim were expressed in France by Thoinot who questioned whether the Sanarelli, as well as the Havelburg, bacilli were not strangers to the production of the disease (*Annal. d'hygiéne Publique*, 38, p. 172, 1897). Dr. London of the Institute of Experimental Medicine at St. Petersburg, while agreeing that the bacillus icteroides is a new and interesting organism, preferred to leave open the question of its etiological relation. I mention these facts in order to show that Dr. Sanarelli's memoirs did not furnish a satisfactory proof of the correctness of his conclusions, and, that, therefore, criticism could be properly made without being actuated by other motive than a desire to arrive at the simple truth.

The resistance of the bacillus icteroides to cold has seemed to me to be incompatible with its supposed role as the cause of yellow fever. I take it to be an established fact that yellow fever does not spread in cold or freezing weather. Dr. Sanarelli cites Corré to show that in Baltimore and Philadelphia more than a hundred persons a week were carried off by the disease in November and December while the temperature was at times below zero. How well this is substantiated may be seen from what follows: The history of the early epidemics is by no means always clear either as to the date of their extinction or as to the exact temperature prevailing at such time. Nevertheless, such a painstaking writer as La Roche fails to substantiate the above statement as to the weekly mortality during the months of November and December. According to Rush the epidemic of 1699 disappeared by the end of October or the beginning of November ("Medical Inquiries," 3d ed., vol. iii, p. 187, 1809). The yellow fever of 1741 was arrested by cold (La Roche, l., p. 56); that of 1747 persisted into October, but on the 16th of that month Franklin wrote that it was "almost if not quite over" (*Ibid.*, p. 60). The epidemic of 1762 was arrested by the accession of winter (*Ibid.*, p. 61), and according to a letter written by Dr. Redman in 1793 it appears that the disease in 1762 declined rapidly during the first part of October, and as a result he had no yellow-fever patients after the first week in November.

With reference to the epidemic of 1762 it may be well to quote from Rush (*loc. cit.* 3, p. 188) a passage which apparently does not agree with the preceding statement. He says: "I have in vain attempted to procure an account of the time of the commencement of cold weather in the autumn of 1762. . . . I have said that it continued to prevail in the months of November and December. The register of the interments in the Friends' burying-ground in these months confirms that account. They were nearly as numerous in November and December as in September and October, *viz.*, in September 22, in October 27, in November 19, and in December 26" From this statement of Dr. Rush, which is contrary to Redman, who in 1762 was his

teacher, it appears that the disease did prevail in November and December, but in the absence of any information as to its exact nature, and as to the prevailing temperature the supposition is justifiable that, if yellow fever, it persisted during an extremely mild period.

In the great epidemic of 1793, 1976 persons died during October, while the mortality in November was only 118. The disease ceased entirely by the close of the first week in November (La Roche, I., p. 68). According to Rush (vol. iii, p. 266) yellow fever prevailed in Philadelphia during the winter of 1794 and spring of 1795, "the weather being uncommonly moderate." In ten months he treated some 200 patients, and lost only 4 (*loc. cit.*, p. 421). It is hardly necessary to state that most of the physicians of the day did not agree in this diagnosis. The occurrence of a doubtful disease during the winter months of 1762 and 1794 cannot overthrow the conclusion which all other epidemics substantiate. The outbreak of 1797 was checked by the advent of winter frost which occurred at an earlier date than in 1793 (La Roche, p. 79). Finally, in 1798, yellow fever in Philadelphia caused the death of 942 persons in October, while only 110 deaths occurred in November, and most of the victims apparently died in the first week of that month. Indeed, the epidemic was declared to be at an end on November 1st (*Ibid.*, p. 84).

According to the eminent writer, Hirsch, "a frost has brought the epidemic to an end under all circumstances whatsoever" (vol. i, p. 351). Another historian, Haeser, arrives at a similar conclusion when he states that "an epidemic may continue at a low temperature, but it is surely terminated by the appearance of a real frost."

To still further invalidate my objection as to the behavior of bacillus icteroides to cold, Dr. Sanarelli refers to examples of vessels which, infected with yellow fever, were frozen up in Arctic ice for months. I am aware of one instance of this kind, that of the U. S. S. "Plymouth," which had a not very convincing experience for a few weeks with "Arctic ice" at Boston. The vessel in question, after developing yellow fever on board, sailed on November 7th from Santa Cruz for Norfolk where it was repeatedly fumigated, and the clothing and bedding of the sick were sent ashore. The ship then proceeded to Portsmouth, N. H., where it was quarantined for seventeen days, after which it was taken to Boston. On January 8th, the crew *with their clothes and bedding* were transferred to a receiving-ship. For about five weeks all parts of the ship were exposed to intense cold, which at times was below zero. In addition 100 pounds of sulphur were burned below deck, and the berth-deck, holds, and store-rooms were thoroughly whitewashed with lime and chlorid of lime. On February 12th the crew returned to the ship, which sailed on March 15th for the Windward Islands. While still at sea, on March 22nd, yellow fever appeared and the ship was obliged to return northward. Thus, in spite of the great cold, of fresh air, fumigation, and whitewashing, the disease was not eradicated. The Board of Medical Inspectors reported that the virus of the disease must have been preserved in the rotten wood of the berth-deck, *or in the bedding and clothing of the crew* (*Sanitarian*, vol vii, p. 348, 1879). These articles, it seems, were not disinfected or exposed to cold, and it is more than likely that in this way the disease germs escaped destruction. That the yellow-fever organism may retain its vitality in clothes for many months was shown by the Madrid epidemic of 1878 (Hirsch, vol. i, p. 374), and a similar instance is reported by Bell, (*Sanitarian*, vol. xxi, p. 506), who attended a case of yellow fever in New York originating from infected clothes which were shipped three months before from New Orleans.

It cannot be denied that there have been instances, in Spain and in this country, in which the yellow-fever organisms have apparently survived the winter and, with the oncome of warm weather, have given rise to a renewal of the epidemic. This recrudescence of the disease is observed, however, only after a very mild winter. Exceptionally, it may be due, as in the cases mentioned above, to infected clothing or bedding which may have been stowed away during the winter months.

It is true that many epidemic diseases like cholera, pest, etc., diminish in virulence, and often almost disappear with the advent of cold weather. There is, however, this to be noted, that, while epidemics of yellow fever have never been known to occur in midwinter, outbreaks of cholera and pest in the coldest season have not been uncommon. It may be sufficient to cite as an illustration the cholera epidemic at Nietleben (January-February, 1893) where in spite of the coldest season the relative mortality was greater than at Hamburg in the preceding summer (Koch, *Zeitschrift f. Hygiene*, 15, p. 90). The severe outbreak of pest at Vetlianka, on the lower Volga, October, 1878—January, 1879) is a notable reminder of the fact that in the past the bubonic plague has frequently prevailed during the coldest weather.

Midwinter epidemics, such as those referred to, lead to the natural inference that the specific germ in each case is resistant to extreme cold. Hence, it is not surprising that pure cultures of cholera, pest,

and typhoid fever, should show little or no result on exposure to low temperatures. The experiments along this line are well known, and have served to establish the general proposition that cold, unlike heat, does not destroy bacteria. It is safe to say that every law has its exceptions. Dr. Sanarelli, however, would believe that because cold does not destroy the common well-known bacteria it is without effect on all bacteria. When Dr. Sanarelli asks for a single specific pathogenic germ which is not capable of enduring a low temperature he surely overlooks one that is of no little importance. This is the gonococcus which according to Christmas ("Annales de l'Institut Pasteur," vol. 11, p. 616, 1897) "*is killed in a few hours if the temperature descends below 15° F.*" The gonococcus is a striking exception in the behavior of bacteria to cold and it is obvious that others may exist.

There are several theories that can be proposed to explain the complete extinction of yellow fever by the advent of cold. It may indeed be that the assumption that cold acts directly by destroying the specific germ is incorrect, but, for the present, it explains well-known epidemiological facts better than the theory of inhibition of growth which it is difficult to uphold in the case of midwinter epidemics of cholera and pest.

The behavior of the bacillus icteroides to cold together with the incomplete evidence offered by Dr. Sanarelli rendered its relation to the disease very doubtful. I am free to acknowledge that since then the evidence in favor of this organism has been strengthened by other investigators. Inasmuch as these did not publish their results prior to the appearance of my paper I cannot be said to have ignored, or to be ignorant of current literature, as Dr. Sanarelli courteously remarks.

The criticism which Dr. Sanarelli makes as to my agglutination experiments apply really to his own work and not to mine. My experiments were intended to show that serum reactions made in a test-tube with dilutions of only 1 to 5 or 1 to 10, as practised by him, were without value. When he now states that the serum dilutions should be always at least 1 to 40 he merely confirms my conclusions as to the value of his agglutination test. Ordinary perusal of the part on agglutination will show that I describe the method employed, which the familiar reader will recognize to be that recommended by Widal, and that I give the degree of dilution of normal serum at which agglutination ceases.

A similar condition of precipitancy pervades the discussion as to the production of toxin and antitoxin. I have shown that the filtered culture did not possess a powerful toxin such as would exist if Dr. Sanarelli's theoretical considerations, which it is unnecessary to recapitulate, held true. The fact that Dr. Sanarelli himself failed to obtain an antitoxic serum ("Annales de l'Institut Pasteur, 12, p. 349, 1898) corroborated my own results. If, therefore, Foá has succeeded in preparing an antitoxic as well as anti-infectious serum he has done what both Dr. Sanarelli and I have failed to do.

I am greatly surprised that Dr. Sanarelli should so misconstrue my statement that the bacillus icteroides "produces in experimental animals a disease not unlike that following infection with the bacillus coli commune," as to believe that I impugn either his good faith or good judgment. Although he has not seen fit to credit others with either of these attributes it has never occurred to me to take such a course. The statement referred to does not lead to the inference that the bacillus icteroides and bacillus coli commune are identical. I think I have made it clear elsewhere in my paper that the two organisms are different, and that it is an easy matter to distinguish one from the other. I may add further that in my "Laboratory Work in Bacteriology" (p. 356) I describe fully the bacillus icteroides which I certainly would not have done had I believed it to be identical with the bacillus coli. The changes induced in animals, however, are very much alike, and in this view I am supported by Drs. Wasdin and Geddings, who state that "the same or very similar results were obtainable by the use of other organisms of different kinds," and that when animals were inoculated with bacillus icteroides, bacillus *x*. and Havelburg, and coli commune "necropsies upon these revealed similar conditions of the organs" ("Public Health Reports," No. 33, p. 1305, 1899).

The latest studies on yellow fever may have revealed the presence of the bacillus icteroides in most of the cases examined. I am not aware, however, that Dr. Geddings has isolated it in seventy-nine cases. In his preliminary report ("Public Health Reports," No. 45, p. 1272, 1898) he tabulates his results showing that of sixteen cultures examined, not cases, thirteen were positive. In the abstract of the final report (*Ibid.*, No. 33, 1899) Drs. Wasdin and Geddings report upon twenty-two cases. They concurred in the diagnosis of fourteen of these, and succeeded in isolating the bacillus icteroides from each of these cases, but failed in the remainder. Evidently a slight error has crept into this statement.

The recent detection of the bacillus icteroides in a considerable number of cases of yellow fever, and, moreover, its probable absence in other diseases has given this organism a much needed support. Per-

sonally, I shall be pleased if the final report of Drs. Wasdin and Geddings will furnish incontrovertible evidence as to its specificity. Such is my attitude on this important question, and as a seeker of truths I trust I may ever be open to conviction when indisputable proofs are offered.

INOCULATION THROUGH THE DIGESTIVE TRACT: A CONTRIBUTION TO THE YELLOW-FEVER DISCUSSION.*

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THE discussion as to the relations between the bacillus of hog cholera and Sanarelli's bacillus icteroides has attracted a great deal of public attention of late. The settlement of the points at issue in the matter rests to a large extent on the question of inoculation of infectious material by way of the digestive tract. It has seemed to me opportune, then, to discuss the question of the difficulty of inoculation by this method, and the true value of experimental results obtained in this way.

In his recent answer to Sanarelli[1] Dr. Sternberg insists on the serious significance of the results obtained experimentally by Drs. Reed and Carroll[2]. These observers noted in the case of three hogs the characteristic lesions of hog cholera after they had fed the animals on warm cultures of bacillus icteroides. In a more recent article (MEDICAL NEWS, September 9, 1899) Drs. Reed and Carroll themselves reaffirm their former conclusions as to the identity of lesions produced by the bacillus of hog cholera and by the bacillus icteroides when inoculation takes place through the digestive tract. On the other hand, Drs. Wasdin and Geddings[3], having employed exactly the same experimental method, reach directly opposite conclusions. They say, first, that the domestic hog is incapable of infection from the bacillus icteroides when the latter is introduced through the intestinal or digestive tract; and, second, that the bacillus icteroides when fed to pigs will not produce any of the lesions or intestinal symptoms of hog cholera.

I think that I shall be able to show a little farther on that Dr. Sternberg's declaration on the strength of the researches of Drs. Reed and Carroll that the bacillus icteroides and the bacillus choleræ suis are practically the same micro-organism is made without sufficient evidence. As far as regards the anatomical lesions observed by both parties, however, though it may seem a paradox to say so, I believe that both may be perfectly correct in their declarations, though I hold that Wasdin and Geddings are surely right in their assertion that the infection of the domestic hog in their experience is impossible by the method pursued of feeding the bacillus icteroides to the animal.

It is an elementary principle in bacteriology when there is question of the inoculation of pathological material or of bacterial cultures that after the selection of an animal that presents the greatest susceptibility toward a given infectious material, the next most important thing is the determination of the best mode of entrance of the latter into the animal tissues. How important this matter of the "best port of entry" is may be judged from certain well-ascertained facts. The staphylococcus, for example, inoculated beneath the skin of a guinea pig produces nothing more than a local abscess, while injected subcutaneously it produces a fatal pyemia. Tuberculosis pursues a very different course according to the various regions into which it may be inoculated. Chaveau and Arloing were able to inject with impunity as much as 162 c.c. of a culture of a septic vibrio directly into the vein of a dog, while a few drops of the same culture injected under the skin infallibly killed the animal.

At a time that is not very long past inoculation by way of the digestive tract seemed the most obvious thing in the world. It was even believed that many microbes found their way into the system by the mouth. But at the present time, on the contrary, the comparative study of microbes and of the constant struggle for life going on among them in certain of their habitats has demonstrated that inoculation by the mouth, apparently the simplest mode of infection, is in reality the most difficult and complicated. For the bacteriologist who would inoculate through the gastro-intestinal tract there is a series of obstacles that he must overcome which, so far, bacteriology has not succeeded in entirely getting rid of. There is the digestive activity of the gastro intestinal tract itself, the predilection of the microbe very often for the intestinal contents rather than the tissues, the failure of receptivity on the part of the animal to a given microbe at a given moment, and finally the influence of the microbic flora already present in the intestine.

Koch administered opium to his animals when inoculating with the cholera vibrio by the mouth because it paralyzed the gastro-intestinal activity, or he gave them alcohol in order to set up a gastro-intestinal catarrh, and so lessen the vital resistance of the tissues. Emmerich did the same thing when

*Translated.

†Dr. Vitale was a student with Professor Sanarelli at Montevideo, Uruguay, at the time the latter was carrying on the investigations which resulted in the announcement of the discovery of the bacillus icteroides.—Editor.

experimenting with his bacillus Neapolitanus. Metchnikoff, besides the two methods already mentioned, alkalinized the gastric juice. Notwithstanding these precautions, the results in all of these experiments were often inconstant. The question of the lack of receptivity needs but to be mentioned, and the same holds true of the predilection for certain materials.[4] Strauss fed the sputa of tuberculous patients in large quantities to hens without a single one of them acquiring tuberculosis, and we know that it would be absolutely useless to attempt to inoculate a bacillus such as that of Nicolaier by the mouth, for even when inoculated beneath the skin it needs the assistance of certain microbes that favor its growth by overcoming for it the resistance offered at first to its invasion by the phagocytes.

The antagonism, vital as well as chemical, of one set of microbes for another deserves even more attention than any other factor which prevents their invasion of the animal organism if we would understand the reasons for the failure of inoculations by way of the digestive tract. Kitasato first called attention to this subject but Metchnikoff's experiments are so much more complete that we shall quote from them. Metchnikoff[5] inoculated plates of gelatin with the vibrio of cholera. The following day, after noting that none of the plates showed the presence of any culture, he exposed some of them to the air, and inoculated the surface of the others with various microbes. Some of the microbes implanted later favored while some hindered the development of the cholera vibrio, while others completely destroyed it and prevented it from growing.

He noted in subsequent experiments that certain microbes were able to prevent the growth of the cholera germ, not only in their own vicinity under ordinary circumstances, but even when it was growing along with a microbe that usually favors its growth. For instance, a plate of gelatin after being inoculated with the cholera vibrio was further inoculated in two crossed lines with a microbe that was known to favor and another that hindered the growth of the germ of cholera. Cholera microbes grew luxuriantly along one line, but not at all along the other. The nearer the approach to the point at which the lines crossed the fewer the colonies of cholera germs. At the intersection, and for some distance around it, no colonies of cholera vibrios were to be found at all.

Metchnikoff succeeded in isolating from the stomach various microbes which favor the growth of cholera germs. In the first place a torula, which he found in the stomach of a hypopeptic individual, then a sarcina isolated from the stomach of another person, and finally a form of bacterium that does not liquefy gelatin. Microbes with the opposite power, *i.e.*, able to prevent the development of the cholera vibrio and even destroy it, have been isolated from the intestine. But not only does there exist a vital antagonism and a symbiosis among microbes, but there is also a chemical antagonism not difficult to demonstrate. This will cause a nutritive medium to especially favor the growth of a micro-organism at one time and absolutely prevent it at another. A culture medium that has sustained the growth of one set of microbes will present conditions favorable or unfavorable for the growth of succeeding microbes quite different from those which it originally possessed before any microbic life had been nourished in it.

If the staphylococcus aureus is allowed to develop on slanted gelatin for three days in a brood chamber it will at first liquefy the gelatin, then it will sterilize the medium by its own products and the gelatin will solidify as before. If tubes so prepared are now inoculated anew with the colon bacillus, the proteus vulgaris, and the bacillus icteroides, it will be found that the last does not develop at all, the colon bacillus does develop, while the proteus vulgaris develops with great luxuriance. On the other hand, where proteus has grown the staphylococcus aureus scarcely grows at all, the colon bacillus presents only traces of development, and the bacillus icteroides absolutely refuses to grow. Where the bacillus icteroides has lived all the other types of micro-organisms mentioned grow very well, most abundantly of all the proteus vulgaris.[6]

Because of the difficulty of placing a microbe that is being experimented with in conditions that will favor its growth, inoculation through the digestive tract has always given inconstant results. The vital and chemical antagonism of microbes always make it a most difficult problem, except where the experiments have been conducted in association with other means that favor the object desired by the bacteriologist.

Let us examine a few of the microbes which, either because of their immediate pathological effects or because of their being able to resist the action of the gastric juice, are able to gain a foothold in the gastro intestinal tract. The cholera vibrio is able to traverse the acid stomach and also to preserve its vitality for a longer or shorter period in the intestines without producing cholera. Animals that are very susceptible to cholera when the germ of the disease is injected intraperitoneally can absorb large amounts of the same culture by the digestive tract with absolute impunity. Metchnikoff could not produce cholera in rabbits except by taking the very young suckling animal and inoculating it at the

same time with certain microbes that favor the development of the cholera germ. Once the little rabbit had begun to live on ordinary forage, it was impossible to produce intestinal cholera in it, even with the aid of all the microbes that favor the growth of cholera vibrios that he had succeeded in finding. Rabbit mothers are well-known for their custom of eating their little ones when they see them moribund. From among a number of young rabbits in which Metchnikoff had produced intestinal cholera, three were eaten by their mothers after examination of them had disclosed their infection with cholera. The health of the mothers did not, however, suffer in the least.

To a young rabbit was administered a quantity of the contents of the cecum of a patient dead from cholera. This did not, however, contain any of the microbes that especially favor the growth of cholera. The animal did not take cholera, though it is needless to say that the intestinal material given to it to eat was swarming with cholera vibrios, so that Metchnikoff concluded that even the young suckling rabbits take cholera by the gastro-intestinal tract only when the germ of the disease is associated with certain microbes favorable to its growth.[7]

Strauss had heard that the veterinarians attributed "morve" in horses to contagion through the food. He cultivated the bacillus, demonstrated its virulence when injected intraperitoneally into guinea-pigs, but though he inoculated a large number of them he was not able to produce the disease by way of the mouth.[8]

It is well known that pest is eminently virulent when inoculated into mice and rats, yet when cultures of the bacillus or portions of the liver and spleen of animals dead of the disease are fed to them, while they often contract the disease that does not always happen. Mice that have often resisted food contaminated with pest bacilli, succumb at once to subcutaneous inoculations of the germs. Even these experiments of successfully inoculating animals with pest by the digestive tract, must be done with material that comes direct from cases of the disease in human beings or at least must not have undergone passage through more than two or three animals.[9]

It is so well known that it scarcely seems necessary to recall the fact that the bacillus tuberculosis can find a nidus for growth in all the organs and tissues, and that there is no animal known thus far to be refractory to the disease. In the laboratory it is ordinarily the guinea-pig and the rabbit that are selected for experimental work in tuberculosis because of their susceptibility to the disease, yet Harris and Gunther, by feeding rabbits with tuberculous flesh, succeeded in producing tuberculosis in but 2 out of 4 animals experimented with. Gerlach fed 35 animals altogether with tuberculous meat, yet only 8 were attacked by the disease. Johne fed 46 animals of different species with tuberculous material, but was able to demonstrate tuberculous lesions in only thirteen per cent. of the animals at autopsy. Nocard fed eleven cats with tuberculous flesh, but was able to find no lesions of the disease after the death of the animals. Peuch found that he had to feed at least 5 kilograms (11 pounds) of tuberculous flesh to little pigs if he wished to be reasonably sure of their having a general tuberculosis at the end of three months. All of these authorities are cited by Arloing, and scarcely tend to prove that it is easy to convey a contagion by the mouth.[10]

The animal that is most susceptible to the bacillus icteroides is the rabbit, which succumbs to the minutest intravenous injection of a culture of the bacillus within forty-eight hours at the longest, and dies infallibly from a subcutaneous injection in from four to five days. Notwithstanding this extreme susceptibility to the bacillus icteroides, I have myself on a number of occasions fed rabbits large quantities of warm cultures of the bacillus without being able to kill them, or even without being able to make them sick. I used three tubes of 10 c.c. of culture each, enough material to kill a great many of the animals if given subcutaneously. I suppose that it is because of this inconstancy of results in giving cultures by the mouth that Sanarelli does not even make mention of this form of experimentation. As for my own experiments with this method, I scarcely preserved the record of them for myself, and certainly did not think that an opportunity would come for publishing them.

It must be borne in mind, however, that Drs. Reed and Carroll, having fed little pigs with the bacillus icteroides, noted in two of them after death the characteristic lesions produced by the bacillus of hog cholera. What explanation can be given for this fact, especially when we consider it in the light of the exactly opposite results obtained by the same method by Drs. Wasdin and Geddings? The bacillus of hog cholera is a saprophyte so constantly present in the digestive tract of the hog that Smith[11] found it in the saliva of the animal, and inoculated with it without producing any pathogenic effect. Salmon, its discoverer, admits that there are a number of varieties of the bacillus, some more saprophytic than others. Loeffler, Cornil, Chantemesse, and Silberschmidt, while they admit that it can give rise to formidable epidemics, have found

it also in isolated cases.[12] Moore places it in the group of the colon bacillus,[13] and Smith advances the opinion that any other affection which weakens the organism of the hog and lowers its resistive vitality may permit the microbe to penetrate into the tissues and set up the disease, and with it an epidemic. Though it may seem far-fetched to admit this power of penetration on the part of the microbe, the fact remains that any debilitating cause may set up symptoms of the disease in certain neighborhoods, and the lesions of hog cholera be found at the autopsy.

I have not been able to study the symbiotic relations that exist between the bacillus icteroides and the bacillus of hog cholera. Knowing as I do, however, the intimate relationship which exists between the bacillus choleræ suis and the colon bacillus I think it would not be difficult to foresee what would happen when the bacillus choleræ suis and the bacillus icteroides were set growing side by side, for the bacillus icteroides, it is well known, favors the growth of the colon bacillus, and might be expected to do the same for the bacillus of hog cholera. A non-virulent colony of hog-cholera bacilli might, under the influence of the symbiosis existent between it and the bacillus icteroides, become malignant and productive of pathological lesions where it was but a harmless parasite before.

Vincent has shown[14] that the most innocuous saprophyte can become very virulent under certain conditions. He took, for instance, the bacillus megaterium and the bacillus mesentericus vulgatus (a form of potato bacillus), and changed them from harmless to extremely active pathogenic bacteria. When inoculated into animals in their primitive condition they produced nothing but a trifling and very temporary rise of temperature. When Roux's method of cultivation was applied to them, which consists in growing them enclosed in a small collodion sac enclosed in the peritoneum of animals, they soon became virulent. When grown this way, as the phagocytes have no chance to get at them in order to neutralize their virulence, they take on pathogenic properties, which gradually become intensified. After this continuous growth for some time in collodion-sac cultures, 4 drops of a culture of the bacillus megaterium killed mice in from ten to twenty hours, killed a guinea-pig weighing 450 grams in twenty-four hours when injected intraperitoneally, and in from two to four days when injected subcutaneously, while a rabbit weighing 1850 grams was killed in twelve hours by an endovenous injection. Vincent showed also that this microbe was modified by the presence of other micro-organisms, and grew much more luxuriously in the presence of a sterilized culture of the bacillus pyocyaneus or of the bacillus coli communis.

Under the circumstances the conclusion of Drs. Reed and Carroll that the bacillus icteroides is a variety of the bacillus of hog cholera seems, to say the least, precipitate. Experimental inoculation of a microbe by way of the mouth is a most insecure method, and conclusions drawn from results thus reached require the most careful examination before they can be accepted. All of the factors that I have mentioned as liable to modify the course of inoculations through the digestive tract must be taken into account or the conclusions will be liable to serious error.

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SOME SURGICAL ASPECTS OF SYPHILIS.

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IN writing a paper on this subject I feel that I must confine myself to my own experience and limit it to a description of those organs involved by syphilis which have come under my observation, rather than to attempt a collective article upon all organs which have been described as involved, and in which the failure to recognize the disease has been made. On this account I limit myself to the manifestations of syphilis occurring in the muscles, sheaths and tendons, bursæ, bones, joints, lymphatic glands, and rectum. I do not include any of the parasyphilides as compared with the syphilides, *i. e.*, manifestations of disease occurring in syphilitics in which the syphilis is not absolutely and necessarily the cause, and in which mercury and iodid of potash do not show their curative effects as in syphilis proper. The syphiloma (granuloma, gumma) resembles in growth and existence a simple specific inflammation, yet it demands a special interest of the surgeon, in that he not infrequently has

[1] Read at a Stated Meeting of the New York Academy of Medicine, held March 16, 1899, in a discussion on syphilis.

mistaken it for other neoplasms, and has subjected his patient to operative interference not always devoid of danger. Some of our most eminent surgeons have removed ulcerated gummata or tubercular syphilides of the lip and tongue for carcinoma, syphilitic gummata and ulcerating syphilides of the lip for labial cancer, gummatous ulceration and infiltration of the rectum for carcinoma. This danger is an ever present one to the surgeon to whom these cases are referred as malignant tumors requiring removal, and who, failing to identify any intermediary manifestation between the primary infection and the present lesion, or because of a too confiding belief in the history of the patient, which may be in error owing to shame, forgetfulness, or ignorance, believes them malignant processes without further investigation.

The tongue, a muscular organ, is the favorite seat for the granuloma of syphilis, and when the process is a diffuse infiltration with involvement of the mucous membrane and ulceration but little difficulty may exist in properly ascribing the cause. When, however, a gumma is circumscribed and exists deeply within the muscles of the tongue over which as yet the mucous membrane is intact, there is no reliable objective symptom by which one is able to differentiate between some abscesses, sarcoma, fibroma, and primary tuberculosis and actinomycosis; and the mistake has been made and recorded in literature again and again. Again, the presence of a granuloma in the tongue originating from several confluent foci although characteristic, for syphilis has been mistaken for carcinoma, especially in those cases in which no intermediary symptoms have been present, an exact diagnosis is often rendered difficult since in the majority of lingual cancers chronic inflammatory conditions and ulcerations are precedent to the carcinosis. Syphilis, so frequent in the tongue, especially in the form of neglected and unhealed syphilides, is a frequent precursor of the presence of cancer, and in several instances (quoted by Von Langenbeck) the gumma and the cancer have apparently appeared at the same time. The diagnosis is again obscured by the fact that many epithelial growths which cannot be distinguished from epithelioma in their histologic appearance are apt to be added to neglected and unhealed syphilides or lupus, in which appropriate treatment and the local removal of the epithelial growths are curative.

The lesions involving the muscles generally occur in the late varieties of syphilis, and either appear as a circumscribed mass or as a diffuse connective-tissue induration with or without disseminated gummatous foci, varying in consistency according to the relative amount of cellular constituents and interstitial inflammation. Its growth, whether slow and painless or rapid and painful, is attended by a more or less constant contracture of the muscle. It is situated usually at the juncture of the muscle and tendon, and varies in size from that of a walnut to a fist. The syphiloma selects most frequently the sternomastoid, and less frequently the masseter, cervicalis, tibialis posticus, the peronei, the triceps and biceps-brachii, biceps femoris, the infraspinatus, antibrachius, the pectoralis major, vastus internus, and the adductors of the thigh. Though these muscular lesions generally occur in several foci or in several muscles in some cases of the acquired variety after thirty to forty years, and in the hereditary and late hereditary syphilis, a single circumscribed lesion is the only manifestation, and a difficulty in diagnosis is at once presented. Though such a single circumscribed lesion is rare, it represents, according to Esmarch's experience, one-half of all the so called tumors of muscles.

Syphiloma in muscle has a great surgical interest since it attains good size and may easily be mistaken for a tumor. Langenbeck saw two inches above the clavicular attachment of the sternocleidomastoid muscle a gumma the size of a pigeon's egg. There were present in addition a pustular eruption and a gummatous orchitis. Had it not been for the constitutional symptoms present Langenbeck says himself it would have been difficult to differentiate from a fibrosarcoma. Virchow also saw a gumma the size of a fist in the trapezius muscle. Ricord recorded one in the tibialis posticus muscle the size of a pigeon's egg. Prescott Hewitt noticed in the adductor muscles of the thigh of a man thirty-five years of age a deeply seated, lobulated, and distinctly marked tumor. It had grown from a small nodule, and recently had grown more rapidly. All syphilis was denied. Inguinal lymphomata began to appear. Suspicion was at once aroused as to the character of the disease. The tumor disappeared under the use of the iodids. Senftleben saw a large gumma of the infraspinatus (six to eight inches) appearing as a sarcoma of the scapula. Although the patient had had chancre eight years before it was extirpated and the neck of the scapula sawn off. Microscopic examination showed it to be granulation tissue involving the whole muscle so that its nature was plain. Similar to this case is that of Langenbeck, in which a large gummatous tumor of the scapula was confounded for a time with a lipoma in a patient who denied syphilis and in whom Langenbeck found a gummatous testicle and post-chancral scar. Langenbeck also found in a thirty-six-year-old man, in the biceps brachii (lower one-third), a gumma the size of a walnut, which was

rapidly growing, painful, and not adherent to the skin. Infection was denied. Before an operation for sarcoma potassium iodid treatment was instituted. The tumor disappeared. Esmarch saw a healthy man of fifty, who for eight months suffered from pain in the tongue following talking and eating. Six months previously he noticed a nodule in the tongue on the left side. The rest of the tongue was healthy. Infection thirty years before with no subsequent manifestation. Cured with mercury and potassium iodid.

Of the infectious processes in muscle tuberculosis without other real marked manifestations is rare. As a primary process in muscle it is rarer than syphilis. As a secondary process and confined to the abdominal muscles and the tongue it is quite as frequently seen.

Tuberculosis in the tongue and elsewhere occurs either as a lupus, a miliary tuberculosis, a gumma, or an ulcer. The gummata occur principally in men. They either follow a primary organ involvement elsewhere or appear as a primary involvement. They exist beneath the mucous membrane and may remain three weeks to three years before softening in the center and forming an ulcer. No severe pain is present until ulceration takes place. Bacilli are seldom found in the discharge. Fourteen cases of this nodular form are described by Volkman, in five of which the disease was primary and in the rest it accompanied a phthisis pulmonum. The infection in these primary cases seems to come from the blood or lymph vessels and not from the sputum as in lingual ulcers. Cold abscesses, made up of confluent tubercular foci with glandular enlargement and phthisis pulmonum, have been reported sixteen times as occurring in the tongue.

The two varieties of tuberculosis of muscle—the gumma and the abscess—demand a diagnosis in the first place between tuberculoma, syphiloma, sarcoma, and a benign solid tumor. In the second place we must differentiate between a tubercular abscess, a congenital cyst, or an echinococcus cyst.

Actinomycosis and farcy scarcely concern us here as the involvement of the muscle in the first is secondary to that of bone, intestine, or lung, and in the latter, the distinctive and rapid course of the disease before muscular involvement as well as the manner of involvement allow an easy distinction. Moreover, here as in tuberculosis a bacteriological examination is decisive.

Tumors of muscle are at the best rare. Of these, the lipoma, the enchondroma, the osteoma, the fibroma, and cavernous angioma have been seen. Of these tumors of muscle the angiomata, situated in or beneath the deep muscles of the neck (their predilection place), present the greatest difficulty since their slow growth, their want of pulsation, their unalterability in volume during respiration render them very like lipomata, cold abscesses, lymphomata, or syphilomata. The lipomata of the tongue have been reported to the number of eighty, and their location has been almost invariably at the tip of the organ. The location, the softness, the yellow color, and the mobility of the mucous membrane over the tumor renders the differentiation from cysts and benign processes an easy matter. Congenital cysts and echinococcus cysts of the tongue are such great rarities and bear so few points of resemblance to the other tumors mentioned as to be left out of account. The sarcomata of muscle, however, are much more common and have been reported to the number of thirty-five. Undoubtedly many of the old statistics include a large number of gummata reported as sarcomata since fully one-half of all gummata seen by or sent to Esmarch as such were sarcomata and were cured by mercury and potassium iodid.

In the smaller cerebral arteries a circumscribed or diffuse obliterating endarteritis is not uncommon in the acquired variety. In the hereditary variety as a small solid infiltration of the adventitia of the vessels it is not infrequently seen in the bones and the viscera. Such a process is frequently seen in the larger arteries and usually leads to an obliteration of the lumen of the vessels. This process involving the arteries of the extremities may lead to gangrene and thus acquire surgical interest. In other cases where this process exists in the larger arteries it results in the development of aneurism or of a circumscribed or diffuse gummatous infiltration about the vessel.

In the former case where an aneurism is present, unless it be completely obliterated the differentiation will depend upon its multiplicity, its occurrence in early life, and the fact that sixty-nine out of every hundred subjects have syphilis as a cause. In the cases in which the process consists in a diffuse or circumscribed infiltration about the vessels, and in the exception to the former class, the mistake most frequently made has been to consider it a fibroma, fibrosarcoma, or neuroma. In the veins circumscribed gummata are not seen, though diffuse processes are known in a few instances. In all cases, the process has been an obliterating one, and the veins most frequently involved have been the portal, the femoral, and the internal jugular. The fact that this infiltration about the vessel has appeared years after infection and has, moreover, formed about the vessel a distinctly circumscribed

mass has resulted in attempts at removal of the process for a tumor.

Two cases have been reported by Greenhow as involving the femoral vein. One has been reported by Schüppel in the portal vein and Langenbeck has reported two cases, one in the common jugular vein, and one in the femoral vein. In both of Langenbeck's cases it was very observable that the infiltration formed a distinct mass about the vein, and in neither involved the accompanying artery but pushed it aside. In both cases the granuloma seemed to begin in the external and adventitial coat, although the internal coat was soft, friable, and had attached to it a completely decolorized thrombus, almost occluding the lumen of the vein. The first was one of a female of fifty-six years of age, the mother of eleven children, six of whom died of constitutional syphilis, and five of whom were living. There had been no evidence of syphilis for fourteen years. There was present a fusiform mass surrounding the common jugular vein. Extirpation of a mass including the vein for an extent of six centimeters. Diagnosis: sarcoma. Three years later gummata appeared upon the tongue and cheek which were cured with mercury and potassium iodid. Another case was in a female, forty-two years of age, who four years after infection, with very few intermediary symptoms, principally exanthemata, observed a mass growing slowly in the inguinal region. The mass was a fusiform one, involving and apparently surrounding the femoral vein. Although the diagnosis was made the mass including the vein was removed. A microscopical examination showed the tissue to be pure granuloma with many small cells showing a greater tendency to disintegration (fatty degeneration and detritus). The difficulty and the ease with which a diagnosis can be made is clearly exemplified in these two cases of Langenbeck.

The lymphomata occur as unusual lesions both in the acquired and in the hereditary variety. Clinically these glands may be either hard (sclerosis), or soft (gummatous). Though confined generally to a few chains of glands in the acquired variety they may, if hereditary, involve the mesenteric, lumbar, iliac, inguinal, thoracic, and cervical chains. Hence in some cases both in the hereditary and in the acquired varieties a differential diagnosis must be made between the lymphomata of syphilis and those of tuberculosis, of pseudoleucemia, of lymphosarcomatosis and those of carcinoma. Such cases have been repeatedly recorded by Esmarch, Verneuil, Ricord and Hutchinson, and their recitals are well known in literature. In 1880 Cunningham of Glasgow reported an interesting case of a man, aged thirty-five, who six years before had been infected. Four years after the infection and without intermediary symptoms the glands of the right side of the neck, thorax, and axilla became swollen, while those upon the left side were only slightly involved. The inguinal glands upon the right side were also much involved. The tumor in the neck measured 14 x 12 inches and was made up of soft, though normally shaped and enlarged glands. The condition at this time was thought to be either a pseudoleucemic lymphadenomata (Hodgkin's disease) or syphilitic lymphomata. Mercury and the iodid of potash was administered and within one month the tumor had gradually disappeared and the remaining glands were smaller.

Wunderlich had an exactly similar case and it is very probable that the cases reported by Billroth and Czerny as cured with arsenic were syphilitic lymphomata.

Two such cases have been observed by the author. The first case concerned a woman thirty-two years of age with acquired syphilis of seven-year's standing. Three years from the time of her primary lesion gummata of the lip appeared which were recognized and treated with inunctions of mercury and iodid of potash. Two years later lymphomata of the neck involving the submaxillary and deep carotid glands of the left side and the axillary glands upon the right side appeared. The cubital and occipital glands were only slightly enlarged. Some of these glands were soft and gummatous to the touch. Some were broken down and partly ulcerated, while others felt hard and stony. Under inunctions of mercury and the iodid of potash they disappeared, excepting those in the submaxillary region, which seemed hard and sclerotic. They were excised and under microscopic examination were found to be in a condition of sclerosis and calcification.

In another case, a man of twenty eight years, with acquired syphilis of six-years' standing with intermediary symptoms (exanthemata and skin gummata) presented lymphomata of the deep carotid and submaxillary chains upon both sides of the body. These glands were soft, rapidly growing and had been present for a period of two months. Under iodid of potash and mercury these tumors diminished in two months so as to be scarcely observable. Within six months the glands had entirely disappeared. He neglected treatment, however, and within a year returned with an enlargement of the same glands without ulceration, which under treatment again disappeared within a period of two months. Such a case, had the history not been known, would have given one the impression of a malignant lymphoma (pseudoleucemic lymphomata) since the examination of the blood showed nothing more than a

leucocytosis and no tubercle bacilli. Molliere, Casati, and others have called attention to this class of diseased glands in syphilis. Doyen himself has reported eight cases of hereditary syphilis in which four were attended with lymphomata involving more than a single chain of glands. In no case was there any breaking down of tissue except where the integument over them was involved. Occasionally these glands become enlarged, soften, break down and leave an ulcer with a hard, indurated edge and a gummatous and adherent base. Such glands may be mistaken for tuberculosis, but the ulcer in these is distinctive as its edge and base shows, or when healed it has an enlarged, adherent cicatrix with its areola of pigment. The deeper glands habitually suffer in hereditary syphilis; such glands as the lumbar, iliac, femoral, and mesenteric. They never suppurate. They occur in the form of an intestinal adenitis by which the glandular cells atrophy and the connective tissue increasingly contracts, or by a proliferation of these cells a soft, and more rounded shape is given them.

It is owing to these two conditions within the gland, when the process is not limited to a single chain of glands that the disease will so closely resemble lymphadenomata or lymphosarcomatosis. Treatment with iodid of potash and mercury as well as a histologic and bacteriologic examination will be required to decide the character of the case. In pseudoleucemic lymphadenomata as well as in the lymphosarcomata, the want of syphilitic manifestations and the anemia present, together with softness and rapid growth of the glands without ulceration, will generally suggest a diagnosis.

Leucemic lymphomata, however, and the enlarged spleen and lymphatic glands of hereditary syphilis may be easily confounded unless an examination of the glands and of the blood prove the case to be one or the other. The only reliable differential diagnostic point is the blood examination. In the lymphosarcomatosis no difficulty exists in a differential diagnosis so different is the course of the two diseases. In the tubercular lymphomata the course as compared with syphilis is slow and painless The ulceration occurs slowly and gradually and the distinction may thus be easily made from the development of the gland and the character of the ulceration; but as some cases of tuberculosis resemble so distinctly pseudolymphadenoma that they can only be distinguished by the examination of the blood; so they must be also distinguished from some of the syphilitic lymphomata. This also requires a blood examination.

The chronic hyperplastic lymphomata, which are rare, as well as the lymphomata following carcinoma, in which the primary carcinoma is not seen or observed, are the most difficult of all the cases to differentiate from the chronic sclerotic lymphomata of syphilis.

As a part of the lymphatic system I include here the tonsil. The tonsil as the seat of the primary lesion is not rare. Less frequent, but of more importance, however, are the ulcerations existing in the tonsil, the result of gummata either in the acquired or hereditary variety. In these cases it often becomes a most important question to distinguish between a true neoplasm and the syphiloma.

Of the new formations within the tonsil, syphilomata and lymphadenomata are by no means rare, and are by many considered to be more frequently found than lymphosarcoma and epithelioma. It has been my good fortune to see such a case with the late Dr. Jarvis of this city. A man, thirty-five years of age, having acquired syphilis fifteen years previously, and having no observable secondary lesion, presented himself to Dr. Jarvis for treatment of a quinsy sore throat. The tumor existed upon the right tonsil, was hard and indurated in spots, and soft in others. It was not ulcerated. It had persisted for a period of two months. The glands in the neck (submaxillary and deep carotids) were slightly enlarged. His treatment previously had been puncture, with partial excision and astringents. As no benefit occurred and the ulcer did not heal he presented himself to Dr. Jarvis for treatment. The ulceration present was one with fungous granulations. It had at its base a grayish discharge. The tonsil itself was enlarged, indurated, hard, and nodular. A consultation was had in which two of our best surgeons were present and recommended an immediate removal of the growth, their diagnosis being sarcoma. Owing to the danger and fear of the operation the patient for the first time admitted the history of his previous infection and some unmistakable lesions. Mercury and iodid of potash were immediately administered, and his disease was cured within two and one-half months.

The Breast.—The early manifestations of syphilis of the skin over the breast are not infrequently seen. The gummata existing within the breast, however, have only lately been conspicuously brought forward. Hennig, Abrosoli and Sauvages, Maisonneuve, Verneuil and Chever mention in all eight cases, but without particulars of the exact condition, although distinctly syphilitic and acquired.

Steng gives an account of a tertiary syphilide of the breast removed for cancer in a woman fifty years of age. The infection occurred twenty-eight years before. She was continuously treated with iodid of potash, but four years before her breast was

amputated for cancer. In the scar there appeared subsequently two hard almond-sized gummata. In six days they disappeared under treatment with iodid of potash. The proper inference to draw in this case is that the disease in the breast was a syphilitic gumma and not a cancer, as it is characteristic of syphilis to return in the character of a syphilide.

To Lancereaux and Langenbeck belong, however, the credit of accurately describing the involvement of this organ in its two distinct forms. (1) The simple syphilitic mastitis. (2) The gummatous syphilitic mastitis. Lancereaux describes three cases. The first variety is seen in both sexes. The gland itself becomes swollen and tense. The skin over it is not involved. The disease is apparently an interstitial process which in this stage presents nothing more than the feeling of enlargement and tenseness. It occurs in the second stage of syphilis, and may undergo under treatment a complete resolution. This process, when it becomes chronic and is attended by the formation of new connective tissue, may subsequently undergo contraction and give the appearance of what was formerly described under the name of deforming chronic mastitis without suppuration (Billroth).

The second variety exists as a hard lump, varying from the size of a pigeon's egg to a goose egg, within the breast. It produces little or no pain, and may continue for a long time without softening or may break down and form an ulcer which is characteristically syphilitic, that is, a hard, indurated border with fungous granulation tissue, on the surface of which there are gray adherent sloughs. This variety of mastitis may occur as a single lesion of an old syphilis or may be co-existent with other lesions of syphilis. Richet found such a case without any other manifestations of syphilis than the primary infection and cured it easily with the iodid of potash. Steers saw one without the manifestations of syphilis and operated upon it for cancer. An examination microscopically revealed the syphiloma. This disease though rare may be confounded quite naturally with tuberculosis which is also a rare disease here.

There are at present about forty-seven observations of this character. In twenty-three the tubercle bacilli were found. In twenty-four the histology was alone the diagnostic point, and of these twelve cases were primary and without other manifestations of tuberculosis; the rest were co-existent with other tubercular manifestations. The course of the process was painless, and the disease was only accidentally discovered. In one-half of all the cases the axillary glands were enlarged in the earlier stages. So long as a swelling alone in the breast is felt a distinction between syphiloma and a new growth is difficult. The probability arises when softening occurs and a cold abscess is present. The chronic course, the softening and the absence of other manifestations are the best signs for diagnosis, but these are not entirely positive as was shown in the case of Habermass. A woman forty-seven years old, the mother of fifteen children, had suffered from a painful, hard, indurated mass in the left breast for one year. It had gradually enlarged to the size of a hen's egg. The skin over it was not involved. The axillary glands were enlarged. An incision made into the mass evacuated a cheesy looking pus. The wall of this mass was indurated, not distinctly circumscribed, but losing itself in the neighboring portion of the process. Although macroscopically this appeared to be tuberculous, a microscopic examination of the wall of the cyst showed it to be a mammary carcinoma with abscess formation in the center, that is, an endocystic carcinoma mistaken for tuberculosis on account of its contents and its cystic formation.

Two cases which have come under my observation represent these two diseases very well:

Case I.— A female, aged thirty seven years. Syphilis at twenty-five. Nine years after the primary infection she presented herself with a nodule situated on the right side and in the upper and outer quadrant of the breast the size of a hen's egg. She had noticed it for about three weeks. It was painless. The axillary glands were slightly enlarged; the post occipital and cubital could be felt. It was a mass of an even consistency and was not broken down. The skin over it was absolutely uninvolved and the mass was circumcribed within the breast. In the previous history of the case the administration of iodid of potash had been followed with success. It would have been very easy, not knowing the history and not having examined the woman more carefully than is usually done, to have considered it a carcinoma and to have recommended an operation. As it was she was cured without operative interference.

Case II.—A female, aged twenty years, entered the Roosevelt Hospital complaining of a tumor in the right breast which was painless and had been noticed only a week previous to that date. The skin over the mass was uninvolved. The growth was about the size of a pigeon's egg. It was situated completely within the breast and the breast seemed to be infiltrated about the mass. It was adherent and distinctly circumscribed. The axillary glands on the right side were enlarged and on close inspection the center of the induration within the breast seemed to fluctuate; otherwise the mass was healthy. The diagnosis was made of probable tuberculosis. Operation was recommended and the breast and axillary glands were removed. A microscopic examination subsequently showed the tuber-

cle bacilli to be present. Recovery took place, and one year later the patient again presented herself with a similar process in the opposite breast. This was of the same character, and the same treatment was repeated. Two years later she was again seen. She was then the mother of two children, and was suffering from phthisis pulmonum, with bacilli in the sputum. Such a case as this on first inspection might have easily been mistaken for syphilis as the organs within the body at that time were uninvolved, and the disease in the breast was a primary lesion. On the second examination, however, the tubercular involvement of the lung was determined so that the disease would have been comparatively easy to diagnose.

Actinomycosis does not attack the breast except as secondary to the bone or the thoracic organs. As a primary disease in the breast it has not been observed. A primary actinomycosis of the skin, however, has been observed. It resembles tuberculosis and syphilis in that it consists of a circumscribed indurated area which breaks down and leaves a granuloma, and as it advances from the periphery in all directions it may invade the breast secondarily and render an immediate diagnosis doubtful until the actinomycoses are found. The sclerosing or interstitial mastitis may simulate in its progress scirrhous carcinoma, and the circumscribed gumma within the breast may be difficult to diagnosticate. The tuberculoma is of the first importance, and next in order come the fibroma, the adenoma, the cystadenoma, the cystocarcinoma, the sarcoma and the cysts. All chronic inflammatory processes gradually disappear or soften and form abscesses When such nodules remain for a month or a year unchanged, and possibly are slightly nodular and often only painful during menstruation, they are generally innocent fibromata. If they grow slowly or continuously they probably represent adenomata, cystadenomata or echinococcus cysts, and if their growth is still more rapid, a sarcoma, cystosarcoma, or an endocystic carcinoma.

(To Be Continued.)

BOTTINI'S OPERATION AND OTHER TREATMENT OF THE ENLARGED PROSTATE.[1]

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PROSTATITIS may appear any time in life but occurs generally in young men or in those of middle age. It is an inflammation which has progressed from an acute to a chronic stage. It may result from sexual excesses and sexual perversion, particularly masturbation, unskilful use of the catheter, violence, the use of caustics, or of strong injections in the deep urethra, and as a result of gonorrhea. The principal symptom is soreness or severe pain, spreading in all directions. This pain is of a dull, aching character which is aggravated by the touch of any instrument inserted for the purpose of investigation or treatment. It is referred to the perineum, rectum, urethra, and bladder, even to the suprapubic region and the pelvis. Urination causes scalding, and coitus and ejaculation is so painful that intercourse is made almost impossible. Epithelium appears in the urine as flocculi or thin shreds. Hyperemia of the parts can be seen on endoscopic examination, which often causes bleeding. Complications occur in adjacent parts, and manifestations of a general neurasthenia may ensue.

The treatment should first be directed toward allaying pain and irritation before radical measures for cure can be commenced. Irrigations of hot water, simple or medicated, are very important. It is best to use a syphon arrangement with a nozzle not longer than one or two inches. The water receptacle should be placed sufficiently high so that the fluid will be propelled by gravity, and thus no instrument will be in contact with or irritate the hyperemic portion. Anodyne suppositories should be employed and ointment of a similar kind should be injected into the urethra. Benzoinol with cocain deserves particular mention. When the painful irritation has subsided the writer has often effected a cure by local galvanization. The electrode must be introduced with great gentleness and must not be pushed onward while the contact with the prostate gland gives rise to pain. The galvanic current must be mild, from 3 to 5 milliamperes. The electrode in the urethra should be connected with the negative pole while the positive-pad electrode is held by the patient. Sometimes it may be well to begin with high-tension currents as an analgesic. The writer objects to the local application of nitrate of silver, which generally over-stimulates the parts and thereby makes matters worse. Any treatment requires time, care, and patience on the part of the surgeon and the patient, but if such is exercised the result will be a cure. Hygienic measures and rest must be insisted upon. Surgical interference has been recommended, and prostatectomy in various ways performed, the consideration of which must be omitted here on account of limited time.

Hypertrophy of the prostate differs from prostatitis in that it is a disease of advanced age and is not painful. The prostate is scarcely sensitive to the touch. The enlargement acts as a mechanical obstruction to the bladder which prevents a free flow of urine. Cystitis develops with dilatation of the muscular walls, frequent micturition, and often retention. Other sequels of the obstruction to the

[1] Read at a meeting of the Northwestern Medical and Surgical Society of New York, June 21, 1899. For discussion, see page 413.

passage of urine are ureteritis with dilatation of the ureters, pyelitis, and pyelonephritis.

The treatment of prostatic hypertrophy has changed from one extreme to the other. In former years the patient was condemned to use the catheter for a lifetime, which was a very indefinite period and it generally increased the trouble. At present the condition may be attacked surgically by way of the urethra, perineum, rectum, or suprapubically. Electricity has also been used in different ways.

It is more than twenty years since Bottini devised and practised the operation on the prostate with the galvanocautery. It consists in burning a passage through the enlarged gland by the galvanocautery, thus enlarging the passage and removing the obstruction. The burner is made of heavy platinum encased in an instument resembling a lithotrite. The burner is heated red, or even hotter, by a storage battery, and by a screw slowly advanced through the obstruction. Antiseptic precautions are advisable, particularly of the bladder. It is still a mooted question whether the bladder should be filled with air or with water. A local anesthetic to the prostatic portion of the urethra is absolutely necessary, cocain being preferable. Some patients may choose ether narcosis. Several incisions forward and backward may be made if the operator finds such a procedure necessary. During the passage of the burner the operator may guide it by placing one finger in the rectum. The whole operation may be completed in a few minutes.

Attracted by the first reports of this operation the writer performed it several times. The late Dr. Guleke of New York had imported an original Bottini instrument with which he and the writer operated. These operations were performed in 1882 and 1883, but as they were not satisfactory to us the details were not specially reported, but my own objections were treated of in other papers. This fact explains the incorrect statements of recent reports in 1897 and 1898 to the effect that the Bottini operation had never been performed in this country.

Not having had the expected result from my experience with the Bottini instrument I constructed my own galvanocautery sound for the treatment of hypertrophied prostate, which was described in a paper read before the Surgical Section at the thirty-seventh annual meeting of the American Medical Association at St. Louis. The paper was published in the *Journal of the American Medical Association*, August 28, 1886. This instrument in a new garb and improved was again described in a paper, entitled "The Galvanocautery Sound and Its Application, Especially in Hypertrophied Prostate," read at Washington, before the International Medical Congress, September 8, 1887. It was published in the Transactions of the International Medical Congress as well as in the *New England Medical Monthly*, December, 1887. In these papers I described the Bottini method, expressed my full appreciation of it, and also stated the objections. If I had not performed Bottini's operation I would not have been able to criticize it, nor would I have devised my galvanocautery sound, which has worked very satisfactorily. While I admire the genius of Bottini I object to the following points from my personal experience in 1882:

1. The instrument was clumsy, unhandy and heavy.

2. The platinum burner was so thick that it got hot too slowly and when hot lost its shape by bending so that sometimes it would not move back into its beak.

3. The very large storage battery was too heavy for transportation and a smaller one did not generate enough heat.

4. The instrument was shaped like Heurteloup's lithotrite, the end having only a short condée. Such an instrument is exceedingly difficult to introduce, and in many cases of hypertrophy non-introducible, the mechanical obstruction leaving no space for its passage.

The intention is to push the instrument into the bladder over and beyond the enlargement of the prostate, then to reverse it so that the beak is turned downward. The galvanocautery knife is hidden inside the beak and moves outward when the dial is turned on the handle as the battery heats it, thereby making a central cut in the obstructing prostate.

5. The result of this operation was very uncertain. It sometimes caused shock, pain and inflammation and irritated the bladder, and the exfoliation of the scabs caused by the cautery gave rise to more complications. It may be again stated that the effect of the galvanocautery is really a burning through the tissues entirely different from electrolysis, which is a chemical absorption.

6. The patient has to remain in bed for weeks, and from some reports made by Bottini himself it has been shown that voluntary micturition occurred only after twenty-four days.

7. The operation is not free from danger.

For the above reasons I constructed my galvanocautery sound. The instrument is catheter-shaped, of smooth, polished metal with a short curve at one end. At this end is a fenestrum in which is placed the platinum wire, the burner to be heated. A serpentine form is best for this wire. Each end is firmly attached to one of the two copper rods inside the tube and represents respectively the positive and

negative pole. The other end of the instrument is straight and forms the handle, in which extend the copper rods, each of which is fastened to one of the pins or heat conductors. These two pins are connected with electric cords by binding screws. The other ends of the two electric cords are fastened respectively to the positive and negative pole of the battery. The current-breaker is movable, and when set straight and pressed firmly down on the screw electricity is evolved and the burner instantaneously heated. The improvements consist in (1) the handle being in one light, convenient piece; (2) having the current-breaker under the immediate control of the index finger; (3) having the fenestrum filled up, by which means the instrument is more thoroughly insulated and less liable to become heated; (4) having the tube filled up, thus preventing it from getting wet or blocked with debris. A storage battery is used to heat the wire.

The method of using my galvanocautery sound is as follows: It is connected with the storage battery and the potential regulated by means of a rheostat. That portion of the prostate to which the cautery is to be applied must have been ascertained and the distance from the meatus measured. The instrument is then introduced so that the fenestrum with its platinum wire is in contact with the part to be cauterized. One hand of the operator holds the instrument firmly in place while the other hand sets the battery in motion. The current-breaker is placed in a straight line and pressed firmly upon the screw, a flash follows, and the raising of the finger from the current-breaker disconnects the current. In one minute the operation is finished and the instrument withdrawn. In causes no pain, and in some instances the patient scarcely believes that anything has been done. He is able to walk about and is not detained from his business. In the case of very sensitive patients I have used cocain injections, but it was scarcely necessary. The séance should be repeated in about three days, or even in two. The instrument must be kept scrupulously clean, as the cautery will fail to work if there is dirt between the connections.

The question now arises, How does this method bring about a cure? The end sought is first to remove the obstruction so that the bladder can discharge all the urine, and at regular intervals, and then to reduce the prostate to its normal size. The theory is that the cautery first acts as a tonic and next as an astringent; the mucous lining shrivels up, and the glandular tissue contracts, and by shrinkage the size is diminished. The stimulation gives new life and healthy action. Each repetition of the operation acts similarly, and perhaps on another part of the hypertrophied gland. The operation must be repeated until a cure is effected. Care must be taken not to over-stimulate and thus cause prostatorrhea, prostatitis, etc., thereby aggravating the very ailment we seek to cure. The cauterization must be just severe enough to accomplish the object and no more. If it is too prolonged and too deep the glandular action is overtaxed and weakened and the operation will be followed by a terrible prostatorrhea which requires a long time for cure. At the same time an inflammation is created which causes pain and swelling, and the over cauterized tissue will slough and septicemia may ensue. For these reasons I prefer the slow method described and am opposed to rapid methods and to too deep cauterizations.

In the treatment of an enlarged prostate by the galvanocautery it is absolutely necessary to pay attention to other symptoms and troubles of the patient according to established principles. Pain must at all hazards be allayed. While the galvanocautery is used it is of the greatest importance to attend to the state of the bladder by drawing off the urine and washing the viscus out. This treatment is indicated in all cases of enlarged prostate in which urgent necessity for immediate relief does not exist, and particuiarly in cases in which the patient is walking about. It is useless if the patient is in the last stages of albuminuria, when uremic poisoning may carry him off at any moment. The earlier the treatment is instituted the better the results which may be expected.

A modification of Bottini's apparatus was made about two years ago by Freudenberg of Berlin. This device is a great improvement and does away with some of the objections experienced in former times. Freudenberg describes his modification as follows: "The modifications in point are relative to shape, handiness and electrotechnical construction, affording at the same time the possibility of sterilization. The modified instrument is provided with a stout cylindrical, grooved handle, strong and steady in the hand, quite resembling the well known handle of a lithotrite. The cooling apparatus is inserted on this side of the handle, instead of at its farther extremity, thereby obviating incandescence of the handle, and securing the rubber hose of the cooling apparatus from being compressed by the ulnar aspect of the hand. In lieu of the platinum blade platino-iridium is used, this alloy being harder and so less apt to bend, and by reason of its electrical resistance permitting of the employment of the weaker current for rendering the blade incandescent. Another addition consists in the conduction of the current ascending to the knife within the guide through a single wire only, equaling in volume the

two wires used in the original instrument; the descending current passing through the hull proper, and by reason of its close contact with the cannula, through the entire length of the external instrument. Moreover, greater steadiness of the blade, riveted as it is to the inflexible hull, is assured. The connection of the instrument with the conducting wires has been achieved by a process corresponding with the axis of the instrument and leaving both poles in a concentric arrangement. A slight jerk will move up the corresponding cable attachment to which the cables are fastened: these are united to one conducting wire, and owing to the improvements of electrical construction are much thinner than formerly.

"Interpolation and interruption of the current are effected by a minute screw, superseding the special interrupter of the original apparatus. The last alteration is the employment of a water-proof and heat-proof putty which, by tightening and isolating the apparatus, allows of its being treated *in toto* like any other surgical instrument, not only as to antiseptic solutions, but as to sterilization in boiling water, a process we could not formerly have applied without seriously damaging the instrument."

The operation as modified by Freudenberg has lately become a favorite one with the profession and within the last few months many reports have appeared. Some of the objections to Bottini's incisor have been removed by Freudenberg's modifications, some still remain, and it is desirable that the future will create an ideal instrument for the purpose. Freudenberg himself reports thirteen cases, with the following results: Relieved, 4; greatly improved, 3; benefited, 4; deaths, 2.

MEDICAL PROGRESS.

The Significance of Imperfect Vaccination Pustules.—CASTERET (*Presse Medicale*, June 24, 1899) has attempted to determine the significance of badly formed vaccination pustules. On the second or third day after vaccination a little pustule may form and undergo three different evolutions: (1) it may disappear on the fourth or fifth day—*unsuccessful vaccination*; (2) it may go on and develop by the seventh or ninth day into an umbilicated vesicle—*successful vaccination*; (3) or it may form a pustule surrounded by an area of inflammation which dries up on the fifth or sixth day—*doubtful vaccination*. The nature of pustules of this character has been much in dispute. Some have asserted that they were due to various germs and the name "false vaccination" has been given to the condition. Others, and among them the author, have maintained that they are manifestations of the vaccine material itself. If material from such a pustule is inoculated into a heifer it will produce the typical eruption of vaccinia. They represent an abortive type of vaccination, the material not having arrived at its complete development. They certainly render the individual immune since revaccination two or three months afterward does not take. Some of these doubtful vaccinations are due to a weakened vaccine as shown by the slow development when the material is inoculated into a heifer. After such an inoculation the material regains its normal power, and will act upon a second heifer as normal vaccinia material. After this second inoculation it will also produce good vaccination pustules in human beings.

Abdominoperineal Proctosigmoidectomy.—ELLIS (*Atlanta Jour.-Rec. of Med.*, August, 1899) suggests an operation for the removal of malignant disease of the rectum or lower portion of the sigmoid to which he gives the above title. It is a grave operation but it gives apparently the best chance of a radical extirpation of the diseased tissues. A suprapubic abdominal incision is made, and at the last lumbar vertebra the internal iliac arteries are located. At this point they are a little over an inch from the median line. The peritoneum overlying each artery is divided, care being taken to avoid the ureter which is thus drawn outward. The artery is separated from its vein and ligated. The sigmoid flexure is then dissected free after the ligation, if necessary, of the inferior mesenteric artery. The gut is tied above the tumor with gauze in two places, and divided between the ligatures after compression by a clamp. The cut ends are immediately wrapped in sterilized gauze to prevent soiling of the wound, and the liberation of the rectum is continued downward into the pelvis as far as is convenient. The gut which has thus been freed is dropped into the pelvis and packed above with sterilized compresses. The abdominal wound is closed and an artificial anus is made in the left iliac region. The patient is then placed in the lithotomy position; the anus is plugged and an elliptical incision made through the skin around it. The levators are divided and the anterior surface of the rectum is separated from the vesical triangle with especial care. The whole of the severed intestine with the overlying compresses is drawn out through the perineal wound. The cavity is packed with gauze and permitted to close from above downward. The writer does not claim especial originality for this method of operation in which he has attempted to combine the best points in the operations of Doyen, Gussenbauer, Hochenegg, Quenu, Allingham, and Von Bergmann.

Successful Out Door Treatment of Tuberculosis in London.—SOMMERVILLE (*Lancet*, July 22, 1899) gives the history of a cure of tuberculosis by out-door treatment in London which shows in a striking manner how success may follow the carrying out of the best therapeutic measures even under apparently adverse circumstances. The patient was a German, aged twenty-one years. The diagnosis of incipient phthisis rested upon physical signs and the demonstration of tubercle bacilli in the sputum. The appetite was poor and there was an evening rise of temperature of 1½ to 2 degrees. Circumstances pre-

vented his leaving London. He was put upon a daily diet which included five or six eggs, a bowl of oatmeal porridge with new milk, beef, mutton, chicken, ham, a little claret, and a very small amount of brandy in or after a large glass of milk night and morning. Cream, puddings, and various minor dishes were also allowed. Altogether he took from five to six pints of milk daily. The appetite at first was poor and the digestion not what it should be, but as time passed and the quantities of the above-mentioned foods were increased, both appetite and digestion improved. The greater part of each day was spent out of doors, walking, driving, etc., a rest being taken before lunch and dinner. The excursions were mostly contrived under the guide of a woman friend, so that they had some objective point of interest. The patient took a quinin mixture containing a little compound camphor and used an inhalation of carbolic acid and iodin. In seven weeks, bacteriological examination failed to show any tubercle bacilli in the sputum; the cough and sputum had almost disappeared; there was no further hemoptysis; the pulse had fallen from 110 to 80; the temperature was normal; the râles had disappeared from the apices, and the subclavicular and intraclavicular hollows were filling up, and the patient had gained fifteen pounds in weight. The writer attributes no small share of the success of the treatment to the clever way in which the patient's friend managed him. He was saved from the depressing effect of associating with others in a similar condition, and his out-door life was made more a matter of pleasure than a means of seeking health.

The Therapeutics of Painful Deglutition.—YONGE (*The Therapist*, July 15, 1899) made a series of observations with fourteen local anesthetics with the object of determining the most suitable substance in this class for palliation of laryngeal or pharyngeal dysphagia. Nine of them seem to possess considerable value under different circumstances. They are cocain, antipyrin, carbolic acid, guaiacol (with or without menthol), eucain, morphin (with or without iodoform), paramonochlorphenol, and orthoform. Nitrate of silver in solution, if used as a spray for laryngeal ulceration, produces a film which protects the denuded surface from further irritation. Cocain he found to be one of the best, but it has the disadvantages of transitory action, toxicity, expensiveness, a bitter taste, and the production of a constrictive feeling. Ice-cold solutions of cocain appeared to have at least double the anesthetic power of solutions of ordinary temperatures. A combination of cocain with antipyrin (five per cent. of the former to twenty per cent. of the latter), used as a spray gave relief in moderate degrees of pain for two or three hours. In perichondritis of the larynx a thirty-per-cent. solution of antipyrin was found superior to cocain in that the effects lasted much longer and the quantity of the drug required was in most instances innocuous. Eucain B. appeared to be preferable in children. He found a twenty per cent. solution of carbolic acid approximately equivalent to a one or two-per-cent. solution of cocain.

Dysphagia resulting from a tuberculous ulcer of the larynx may be quickly relieved by puncturing its floor with a specially curved syringe and injecting one minim of pure guaiacol. He mentions an instance of this character in which dysphagia was so great that rectal alimentation became necessary although the patient's appetite was ravenous. One week's treatment with guaiacol sprays and two injections of one minim of guaiacol in the floor of the ulcer caused the dysphagia to disappear and the ulcer soon healed. Insufflation of morphin and iodoform is an old method of treatment. A more recent application and one of great value in advanced cases of laryngitis in which any direct attempt at applying drugs causes distress, is prepared as follows:

℞	Morphiæ hydrochlorat. . . .	gr. ⅙
	Mucilag. acaciæ	ʒ j
	Glycerini	ʒ ij
	Aquæ . . . . q.s. ad	ʒ j.

This mixture is administered in sips before each meal. The sticky fluid clings to those parts which the food will touch on its way into the esophagus and thus temporarily relieves the pain of deglutition. The method is applicable for syphilitic and malignant ulceration.

Paramonochlorphenol has been highly recommended by Simanowsky and Spengler of St. Petersburg for tuberculous laryngitis as both palliative and curative. It is employed in solutions of from five to twenty per cent. in glycerin. These are rubbed into infiltrations and ulcerations with an ordinary curved cotton applicator. The administration causes acute pain, which is followed, however, by a prolonged anesthetic effect. Orthoform is a powerful anesthetic, not so potent as cocain, but more suitable for prolonged application by reason of its innocuousness. The anodyne gives relief in from five to ten minutes and the effect lasts from a few hours to four or five days, owing to the slow solubility of the substance. The drug has no effect upon unbroken mucous membrane. It is necessary that the nerve-endings be exposed. It is well known that fluid thickened with flour, arrowroot, etc., is less painful to swallow than either solids or liquids. Sucking small pieces of ice before a meal gives considerable relief. In ulcerative conditions of the larynx a patient can sometimes swallow with comfort if he lies flat on his stomach and sucks up nourishment through a tube from a cup placed on a chair by the bedside; or, while in the same position, food may be swallowed in gulps to avoid the choking and coughing which is due to imperfect closure of the upper part of the larynx. The use of the esophageal tube has been advised but it causes such discomfort that rectal feeding seems preferable. No single remedy exists which will relieve all forms of dysphagia, but when one anesthetic fails another may succeed, so that there need scarcely be a patient who is forced to turn away unrelieved.

Silver Catgut Sterilized by Dry Heat. — BOECKMANN (*St. Paul Med. Journ.*, July, 1899) predicts that the time will come when the preparation of catgut will be perfected to such a degree as to make it an ideal material for sutures and ligatures. It is proven beyond a doubt that aseptic catgut does not give rise to any trouble if it is not infected by the hands of the operator and is applied in aseptic localities. Therefore, in cases of failure the writer blames himself rather than the catgut. The ideal

gut must be pliable, durable, clean, sterile, and, last but not least, antiseptic. It is safe to assume that all catgut is contaminated with chemical and mechanical impurities. Clean catgut ought to look perfectly white but it is yellow if fat is present. Chemical solvents, such as alcohol, ether, turpentine, and benzine, dissolve more or less of the fat contained in the gut but this is rather a disadvantage as the gut is thereby rendered dry and less pliable than before, and one does not know to what extent they dissolve the toxins. The first process in cleansing the gut should be a scrubbing with soap and water. Catgut bundles which contain ten strands are spread out on an inclined washboard and kept in place at top and bottom by pegs. The bundles are scrubbed with a clean sponge and sterile hot water containing green soap, the hands having previously been scrubbed and the fingers covered with rubber tips. After fifteen minutes of scrubbing the bundles are rinsed in sterile water. The second step is to make the gut antiseptic. Sublimate coagulates albumen and does not seem to penetrate properly. Carbolic acid impregnates the gut but is disposed of much sooner than the gut itself, thus rendering the latter a culture medium for bacteria on which the carbolic acid exercises an inhibitory action while present. Iodoform decomposes into free iodin, making the gut brown, irritating, and brittle.

Credé impregnated catgut with a one-per-cent. solution of lactate of silver for one week and afterward exposed it to the bright sunlight for the purpose of reducing the silver salt under the supposition that the gut would be sterilized by the pure silver thus produced. Boeckmann repeated his experiments and found the silver catgut superior to any other antiseptic catgut, although he does not trust to the sterilization thus obtained. He decants the solution after one week and puts the jar which contains the strings in the sunlight with a piece of gauze over its mouth until the gut turns black. The jar is then filled with sterile water several times and shaken until the water remains perfectly clear. The strings are then uncoiled and stretched back to their natural size by weights in a case which protects them from dust but exposes them to the sunlight. When perfectly dry they are cut up into desirable lengths, rolled up in separate coils, placed in different hardening fluids, and again exposed to sunlight. The silver gut will last about five days in the tissues. If hardened in alcohol it will last about a week. If immersed in a one-per-cent. solution of formalin-alcohol it will last about two weeks in aseptic tissues. This ought to suffice for any purpose, but if any surgeon wishes a more durable material he can obtain it by hardening the gut in a five-per-cent. solution of formalin. Such gut will last about six weeks. The hardening solutions are decanted and the gut again dried by placing the jar in an incubator. The strings are wrapped in paraffin paper and placed in envelopes which are sealed. The envelopes are heated in a dry sterilizer at a temperature of 280° F. for three hours or more. This dry sterilization disposes of all handling of the gut until the moment when it shall be used. This method of preparation is more suited to the laboratory than to the surgeon's office, but the product is such a satisfactory one that Boeckmann looks to see catgut so treated supplant catgut prepared in other ways as well as kangaroo tendon.

THERAPEUTIC NOTES.

Non-Operative Treatment of Tuberculous Peritonitis.—Byford (*Va. Med. Semimonthly*, July 21, 1899) does not believe that the cure of tubercular peritonitis, which so often follows abdominal section, is due to the slight operative interference. Observation has taught him that tubercular peritonitis is increased and the patient is prevented from getting well by the intestinal irritation which is produced by the ingestion of improper food. If this source of irritation be avoided, the patient will usually recover without other medicinal treatment. During the first few days of an acute attack the patient should receive the treatment that is suitable for an acute peritonitis. After the first few days no opium should be allowed, but hot fomentations should be applied to relieve pain. Enough calomel should be given to turn the stools to a dark green, and afterward divided doses of salines sufficient to produce two or three soft stools should be administered each day. The diet should be fluid, in small quantities, so as to avoid the production of intestinal gases. Later such solids may be given as will neither produce gas in the stomach or bowels, nor leave a solid residuum. The patient should be kept in bed until all abdominal tenderness is gone and the evening temperature is almost normal. Later, when there is any rise in temperature or indication of abdominal tenderness, he should again remain quiet. Salol, guaiacol, and creosote are helpful in keeping down intestinal fermentation, while toxics, stimulants, and general antitubercular remedies should not be neglected. For several months the diet should be carefully regulated. It is Byford's belief that the rest in bed and scanty diet are responsible for the cures of tuberculous peritonitis which sometimes follow operations performed upon patients suffering with this disease.

Chronic Eczema Treated by Naftalan.—Rosenbaum (*The Therapist*, July 15, 1899) gives a résumé of his experiences with naftalan, especially in burns and acute chronic eczema. The results obtained in chronic eczema were far more striking than those obtained in acute eczema. One man had suffered for more than twenty years from an obstinate eczema of both hands, with tormenting itching. The skin was cracked and so covered with crusts that he always wore gloves in public. In a short time after the naftalan treatment was begun the itching ceased, and the skin rapidly took on a normal appearance. The application of naftalan once a week at night was sufficient to preserve this good condition of the skin. In another patient, a woman, there was an eczema which extended over almost the whole surface of the body, so that the appearance was similar to that of ichthyosis. In forty days after the commencement of the treatment with naftalan she was completely cured.

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SATURDAY, SEPTEMBER 23, 1899.

THE CONDITIONS OF INFECTION.

THE paper we publish this week on "Infection through the Digestive Tract" by Dr. Felix Vitale, a former co-worker with Sanarelli, is of special interest not only as a contribution of importance to the discussion on the etiology of yellow fever, but as a suggestive review of some of the conditions of infection as the knowledge of them is gradually being evolved in the progress of modern bacteriology. Symbiosis and antagonism, the influence of microbes upon each other in a favorable or unfavorable sense, is the question that is occupying most attention just now. That germs, so-called, are not wholly evil in their influence has of course been known for a long time, but the realization that certain forms among them actually act as our protectors against others by inhibiting their growth has only come in very recent years.

With the knowledge of this fact it is easier to understand that pathogenic germs, such as the diplococcus of pneumonia may be almost constantly present in the saliva of even normal individuals, and yet not produce the disease, or that the diphtheria bacillus may lodge in a healthy throat for weeks or even months without doing harm. The antagonism of other flora of the mouth is of course not the only reason that prevents the outbreak of such diseases, but it is an important reason, and it emphasizes the necessity for the avoidance of any drastic measures that would disturb Nature's perfectly but very delicately balanced microbic equilibrium for protective purposes. This disturbance of bacterial equilibrium constitutes an important element in the greater prevalence of certain diseases during certain seasons of the year than at others, and gives the probable clue to the occurrence of various intestinal disturbances when the changing of drinking water, for instance, in removing from one place to another gives entry for the moment, at least, to an entirely new crop of intestinal flora between which and the former indigenes a new equilibrium of symbiosis or antagonism must needs be established. The question of infection is a much more complicated one than has been imagined. Intestinal antisepsis takes on a new appearance in the light of this bacteriologic advance for it may prove that so-called intestinal antiseptics disturb bacteria that otherwise do good rather than harm by their presence in the digestive tract. In general, the lesson *non nocere* comes out still more forcibly than before and makes clear the importance of conservative medication.

INJECTIONS IN INTUSSUSCEPTION.

IN *Pediatrics*, April 15th, Clubbe reports eight cases of intussusception treated by laparotomy with six recoveries. This is a very good showing, and it naturally follows that his advice to precede an operation with an oil injection demands serious consideration. This old method of treatment is not very highly esteemed by most surgeons of to-day. Their objections to it are of the general character, that it wastes valuable time, that it can do no good and may do harm, and so forth, though some writers advise its employment in the early hours of the obstruction.

Clubbe takes a positive stand that the injection of warm olive oil should be employed in every case, no matter at what stage the patient is seen. He says that he has reduced the obstruction in six patients by this means alone, and as he always makes the injection after the patient has been prepared for operation and the anesthetic has been given, very

little time is lost, and the decision to operate is in no way interfered with, unless, of course, the injection is successful in reducing the intussusception. The greatest advantage he claims for it, however, is, that in almost every case, the intussusception will be partially reduced, and that in the gentlest manner; and, by the more exact localization of the unreduced portion which follows, the abdominal incision can be made directly over the lesion. Hence the operative time may be shortened rather than lengthened by an injection given while the child is under the anesthetic.

COLLES' LAW AND ITS EXCEPTIONS.

Supposed discoverers in medicine have fared rather badly at the hands of the present generation. Nearly always some one has been able to point out, or thought he could, that the discoverer was anticipated by some one else of whom, as a rule, the world had heard practically nothing. Colles has suffered with the rest, and French syphilographers, notably Fournier and Morel Levalée, have pointed out that the first one to formulate the law so long known as Colles', that "the paternally syphilitic child will not infect its own mother," was really Baumés, a French physician, and that in all justice he should be given credit for it. It is not probable, however, after its long years of use that there will be any change in the designation of the law.

Of more interest is the fact that in recent years a certain number of exceptions to the law seem to have been pointed out. These have not been of sufficient number to absolutely impugn the truth of the law in general, but they seem to show that there are special cases that either escape from its influence entirely or in which the protection afforded by it is but transitory. The principle on which the law affords protection is still in dispute. While Fournier considers that the mother is protected because she has been actually infected with syphilis, though in a mild, or, as he calls it, Platonic form, Finger of Vienna and Von Düring of Constantinople think that she has only been rendered immune. This immunity they suppose to be due to the absorption of toxins and perhaps antitoxins from the fetal blood without actual infection by the micro-organism of syphilis. It can readily be understood that immunity thus produced might be of comparatively short duration. The observations of bacteriologists on other diseases have shown that the immunity secured by antitoxins is not lasting. The protection afforded by prophylactic injections of diphtheria serum lasts not more than three weeks. Some years ago the brothers Klemperer pointed out that the protective substances exist in the blood of pneumonia patients for even a shorter time than this. Whether we have in such considerations an explanation of the reason for certain reported exceptions to Colles' law remains to be seen.

A very striking case reported by Dr. Neuhaus of Munich in Unna's *Monatshefte für Praktische Dermatologie*, June 15, 1899, shows that the protection afforded the mother by having borne a syphilitic child did not protect her from infection from without, six months after the birth of her child at a time when the child had been dead for some months. In this case there could scarcely be question of reinfection after only six months of supposedly absolutely latent syphilis, and it is much more probable that the infection noted was primary. There evidently remains some careful collating of cases yet to be done before the physician can always be assured that the immunity undoubtedly conferred for some time upon the mother by bearing a syphilitic child is really enduring, and whether the occurrence of active lesions of secondary syphilis in the child toward the end of the nursing period might not prove an indication for the substitution of artificial feeding for the breast before the usual time for weaning.

THE COMPLETE OPERATION FOR CANCER OF THE BREAST.

Notwithstanding the excellent statistics that such operators as Halsted in this country, Cheyne in England, and Heidenhain in Germany have been able to bring forward as the result of operations for mammary cancer that included the removal of all the lymph nodes that were suspected of infection, not all of the practical operators have been ready to concede that this form of so-called complete operation is the only surgical intervention justifiable in these cases. During last winter there was a series of discussions on this subject before the Royal Medical and Chirurgical Society of London, in which a number of prominent London surgeons

took part. Not a few of the men who do large amounts of operative work still cling to the view that what has been called the incomplete operation may be employed. They object to the term "incomplete," which is a designation, and a very apt one, it would seem, of Mr. Watson Cheyne's invention, and claim that in certain cases the removal of the breast and of such lymphatics as are evidently infected is a radical operation, and the cure often an absolute one.

If anything has been made clear by the recent operative work in mammary cancer it is that on the first operation depends the ultimate prognosis of the case. Operations for recurrence are almost without exception merely palliative, and undertaken only to satisfy the patient's mind for the time being. It seems unfortunate, then, that there should be any hesitancy as to the thorough removal of all tissue reasonably open to suspicion of infection at the primary operation. Halsted's unprecedented results by his complete method are well known in this country, and show how much has been gained by radical removal. Since 1890 Cheyne has operated twenty-one times for mammary cancer, and twelve of his patients lived more than three years after the operation. Nine of these are still alive, six to nine years after the operation, and of the three who died only one is known to have died of cancer. What a difference between these results and those of the day not much more than ten years ago, when Billroth said that he was not sure that he had ever seen a patient with mammary cancer cured by operation!

There is still room for improvement in the matter of surgical interference in these cases, and the frequent references made in recent surgical literature to Halsted's suggestion that the supraclavicular as well as the axillary glands will have to be thoroughly removed shows the direction which operative advance will take. Most operators at present seem to consider this suggestion too radical, but so did the older surgeons of a few years ago when it was represented to them that it was necessary in every case to clean out the axilla. It seems but a question of time until this new suggestion will be very generally acted upon, and we can then confidently look for a still further reduction of the mortality from cancer.

Dr. Stiles of Edinburgh in a paper on "The Dissemination of Cancer of the Breast and the Necessity for Its Treatment by Extensive Operation" (*British Medical Journal*, June 17, 1899) brings out especially the fact that there are no macroscopic appearances of lymph glands that can be depended on to disclose their infection with cancer in the preliminary stages. "In its initial stage," he says, "cancer of a lymphatic gland gives rise neither to enlargement nor to induration, and the absence of these signs, therefore, does not necessarily mean freedom from malignancy." Even in the axilla, as he points out, lymphatic glands may often simulate fat clumps with only a small margin of glandular tissue, yet this tissue may contain emboli of cancer cells, for it would seem to be by embolism rather than continuity of pathologic process that cancer spreads among the lymphatics. Dr. Stiles then repeats Mr. Cheyne's advice as to thoroughness of the primary operation, and while he does not accept Halsted's views as to the advisability of the removal of the supraclavicular glands unless tissue removed from this region should prove on microscopic examination to be infected, he insists that the fascia of the serratus muscle shall be removed completely in every case, and to do this some fibers of the muscle itself must be taken with it, that the sheath of the axillary vein shall be removed, and the branches of that vein coming from the anterior thorax shall all be exsected in every case, as otherwise the lymphatics that accompany these veins cannot be eradicated with any certainty.

ECHOES AND NEWS

Professor Charles Stoerk, the eminent laryngologist, died in Vienna on September 14th.

Typhoid Fever in Madrid. — Fifty-nine cases of typhoid fever were reported in Madrid in one day — September 15th.

Deaf-Mute Congress. — An International Congress of Deaf-Mutes is to be held in Paris during the Exposition. The first school for deaf-mutes was opened in Paris in 1750.

Plague Suspects in Falmouth. — A Norwegian vessel which arrived at Falmouth, England, on September 16th has been quarantined because it is feared there are several cases of bubonic plague on board. Four persons died on the voyage.

The Pope's Illness. — It has been rumored that the

Pope is seriously ill. Dr. Lapponi states definitely that His Holiness is not even ill enough to require the attendance of a physician at the Vatican. The Grand Old Man of Rome continues to accomplish more work than many a man half his age.

Dreyfus Very Ill.—It was reported on September 16th that Dreyfus' health has deteriorated greatly since the verdict of the court-martial was rendered. In spite of his physical weakness he has maintained his calmness and courage. The Government, evidently fearing the disgrace his death would entail, pardoned him on September 19th.

Departure of the "Relief."—The Hospital ship "Relief," with surgeons, one hundred members of the Hospital Corps, twenty women nurses, and medical supplies, sailed from San Francisco for the Philippines on September 14th, notwithstanding that the local inspectors of steamships had condemned the vessel in so far as carrying passengers across the Pacific is concerned. The "Relief" will stop at Honolulu and at Guam.

Abstract Card Catalogue of Physiology.—According to *Science* it is understood that the Boston Public Library will undertake, during the coming winter, the publication of a card catalogue of physiology, the cards to contain not only the ordinary bibliographical information but also brief abstracts of the papers. The plan originated in the Physiological Department of the Harvard Medical School, and Professor W. T. Porter will be responsible for securing or preparing the abstracts.

To Outwit the Quinin Trust.—There is a likelihood of a breaking down of the quinin trust organized by German manufacturers through a movement said to have been started recently by leading cinchona planters of Java for the purpose of keeping the raw material out of the hands of the syndicate of manufacturers. There seems moreover to be no good reason why the United States should not get both the cinchona bark and the sulphate of quinin direct from Java, and thus avoid the trust.

A Woman Who Graduated in Medicine Eighty Years Ago — The honor of granting the first degree in medicine to a woman does not belong to this end of the century. The University of Paris eighty years ago made Madame Boivin a doctor of medicine. She proved herself worthy of the degree not only practically but in a literary way, and besides membership in French and foreign scientific societies, she held an honorable position under the government as chief inspector of a home for convalescents. She died in 1841.

Increase of the Medical Profession in England.—The London *Lancet*, September 2, 1899, says: "During the last ten years the number of qualified British practitioners has increased by about twenty-two per cent., whereas the increase of the population has been only at the rate of 7 5 per cent. According to the Medical Directory there are enough practitioners in England to provide a medical attendant for every 1272 people, men, women, and children, a state of affairs which clearly makes it impossible for all the medical men to earn a decent livelihood."

The Yellow-Fever Situation.—This is much improved. Toward the end of last week there was a movement among the towns of the States of Mississippi and Alabama to quarantine against New Orleans and some other Mississipp River places, but the movement did not spread to any extent and the feeling generally is more confident that further outbreaks of the disease in the Mississippi region are not to be anticipated. At Key West the disease is well in hand and no further accounts of the development of yellow fever in people who have left the city are heard.

The Opium Habit among Asiatic Europeans.—The opium habit prevails among Europeans in the East to an extent which is appreciated only by those who are brought into contact with its victims. In view of this fact the announcement by McLeod of Shanghai that it is possible to cure the habit by the administration of sodium bromid is indeed welcome news. He gives the drug in two doses of two drams, in solution, every two hours for the first two days, and one dram on the third day. Three ounces of the drug in all will probably suffice in most cases.

French Scientists Welcomed. — The President and about 300 members of the French Association for the Advancement of Science arrived at Dover, England, September 16th, on a visit to the British Association, which was in session there. The latter had been urged to give the French Association the cold shoulder on account of the Dreyfus affair. Instead, the reception was most cordial. The French President kissed President Foster, many congratulatory speeches were made, feasting preceded the scientific work, and an ecstatic state of things prevailed generally.

How Soldiers' Feet Are Cared for in England—The importance of the care of the feet of soldiers can scarcely be overestimated. The fact that during the maneuvers on Salisbury Plain last year a large number of men were placed on the sick list on account of some slight trouble with their feet led to the formation of classes among the non-commissioned officers for the purpose of instruction in the art and science of chiropody. The men are not only taught to look after their feet, but are instructed in the prevention and cure of corns, bunions, ingrowing toe nails, chilblains, blisters, etc., slight ailments it is true but any one of which if allowed to go unrelieved, will incapacitate a man for much marching.

Post-Graduate Study in London.—In correction of a recent announcement in the Students' Number of the *British Medical Journal*, the dean of the Post-Graduate College of the West London Hospital writes to say that not only are courses of lectures and demonstrations in the wards given by the staff of the hospital, but that the practice of the West London Hospital is reserved exclusively for post-graduates, and accommodation in the shape of lecture, reading, and writing-rooms are provided for their use. That this undertaking has met with

success is proved by the fact that nearly 100 medical men from all parts of the world have taken out tickets for study at the college during the past twelve months.

The Plank Bed in England.—One of Her Majesty's judges, Mr. Justice Matthews, has recently denounced the use of the plank bed in prisons in the strongest language. Placing a prisoner after a hard day's work upon a bed of planks with nothing under him but a single blanket and sheet, is a relic of the barbarities of the Middle Ages and on a par with the rack and thumbscrew. Yet according to the present law in England it is a necessary part of punishment with hard labor. A convict surgeon of long experience has expressed the opinion that sentences of four months, the first month on a plank bed, have produced more permanent injury to the health of prisoners than far longer sentences without the plank bed.

Concerning Quacks.—The "Annual Convocation of the Faith-Curists" opened on September 15th at the Sanctuary at the foot of Chapel avenue, Jersey City, and will continue for ten days. On September 17th a number of new converts were made, and many wonderful cures were reported. A man who had been an imbecile and a bodily wreck up to his thirty-second year is alleged to be "all right now," etc. The West Virginia State Medical Society is prosecuting Christian Scientists and all other quacks who engage in the practice of medicine without a degree from some reputable college. A committee has been appointed to raise funds out of which will be paid the expense of driving all illegal practitioners from the State.

Death of Dr. Cruice.—Dr. Robert B. Cruice of Philadelphia died suddenly on September 14th in the arms of a patient, General Pennypacker, whom he was visiting professionally. Dr. Cruice had been prominent in Philadelphia medical circles for thirty years. He was graduated from the University of Pennsylvania in 1859, and in 1861 entered the army as assistant-surgeon, attached to the Thirty-eighth Pennsylvania Volunteers. He served until 1863, when he was compelled to resign on account of injuries received by his horse falling on him. After the war Dr. Cruice returned home and became identified with the leading Philadelphia hospitals as surgeon. At the time of his death he was a Fellow of the College of Physicians.

Consumptives in California.—The California State Board of Health passed a resolution on September 14th declaring that plans should be considered for establishing a quarantine against human beings and domestic animals with tuberculosis entering the State. It would be astounding indeed if the plans proposed concerning human beings should mature. Dr. D. D. Crowley, in introducing the resolution, declared that statistics show tuberculosis to be spreading rapidly among native-born Californians. He referred to the constant danger from the large number of consumptives who seek Southern California for their health, and declared that the protection of the State's inhabitants is of more value than the cure of a small percentage of invalids. All this is practical Christianity with a vengeance.

Position of Women in Germany.—The struggle to determine the position of women in Germany continues unabated. After the students at Halle protested against the admission of women to the medical courses of that university, the Woman's League of Berlin submitted an address to the Federal Council of the Empire asking for the full admission of women to the medical departments of the universities and to the examinations in medicine. So far as the Universities of Giessen and Strasburg are concerned, this has already been granted. The government of the Grand Duchy of Baden is equally pronounced in their favor. In Berlin the administrators of orphanages have employed women in certain offices. On the other hand, the administration of the railways has just decided that any woman employed in connection with them shall receive from $25 to $50 less than that received by men for the same work.

Inspection of Fruit Syrups.—At the beginning of September, according to its official announcement, the Board of Health of New York City took upon itself the duty of allowing only syrups made from fruit-juice to be dispensed from soda-water fountains and other dispensaries of drinks. So far we understand very little has been found that required correction. It is supposed, however, that dispensers of fictitious flavoring syrups took warning, and for the time being at least, are not risking detection. It is well known that large quantities of so-called fruit-syrups are manufactured without the slightest tincture of fruit-juice entering into their composition. The products used in their manufacture are various aromatic substances from the coal-tar series of compounds, and a number of scents obtained in the same way. It is proposed, however, by the health authorities to break up the practice of dispensing any such materials in this city.

Butter of Cows Fed on Cotton-Cake.—Cotton-cake is the mass of substance that remains after the cotton-seed oil is expressed under heavy pressure from the seeds of the cotton plant. It was long considered as a waste product, but of recent years it has been proposed to use it as fodder for cows, and the attempt has been successfully made. The *British Medical Journal*, in a recent issue, says: "Experiments made at Wye and in the laboratory are held to have proved beyond doubt that the characteristic constituent of cotton-seed oil passes into the milk of cows fed upon cotton-cake. Certain samples of butter examined during the year gave reactions for cotton seed oil, but the amount indicated was held to be not more than might be due to feeding on cotton-cake." This observation if confirmed by further investigation and other observers will make still more difficult the already tedious task of testing butter for foreign ingredients and deciding as to its adulteration.

Residual Light Effects on the Retina.—The following personal observation of the greatest of living scientists

seems worthy of special notice: Lord Kelvin writes to *Nature* from Aix-les-Bains, under date of August 7th, as follows: "Last night, during a thunderstorm of rare severity, in which brilliant flashes—single, double, triple, or quadruple—followed one another at intervals often of not more than a few seconds of time, I was surprised to see, with great vividness, on a suddenly illuminated sky, two nearly vertical lines of darkness, each of the ordinary jagged appearance of a bright flash of lightning. I remembered to have seen two real flashes of just the same shapes and relative positions, and I concluded that the black flashes were due to their residual influence on the retina. I turned my eyes quickly from the dark sky outside to an illuminated wall inside the house, and I again saw the same double dark 'flash,' which verified my conclusion in an interesting manner. The fatigued part of the eye failed to perceive the brightness of the sky in the one case and of the wall in the other."

The Color of Water.—As water and its natural color are the basis for certain comparisons in medical chemistry, the following note from Professor Spring, as given in the *Scientific American* for September 2, 1899, will be of special interest: The author reports on his experiments of many years to explain the color of the water. He has come to the conclusion that a pure blue is the natural color of water, for when we look through a long tube filled with distilled water against a brilliant white surface, a pure blue is seen, such as is shown by the Lake of Geneva in quiet weather, a color which is not influenced by superficial or interior reflection. When pure water becomes slightly turbid by extremely finely divided white or colorless particles floating therein, they reflect, even in the case of ground mountain crystal, a yellow light, which unites with the natural blue into a brilliant green color, such as is exhibited by the Neuenburg and Boden Lakes. The peculiar facts established by various observers, that the water of ordinarily green lakes turns perfectly colorless at times, is not due to a clarification, but, on the contrary, to an influx of a reddish mud, colored by ferric oxid, which completely neutralizes the green.

Hardening Plaster of Paris.—A German patent has been granted for the treatment of articles of plaster of Paris with an aqueous solution of ammonium borate for the purpose of hardening them and making them impervious to water. As such a process will be useful to orthopedic surgeons not only in making plaster splints last longer, but especially because it may serve to lessen the wear and tear on plaster bandages that occurs now whenever they come in contact with the discharges from the patient, we have thought it worth while to call special attention to the method. The hardening liquid may either be mingled with the plaster when it is being prepared, or it may be applied to the surface of the bandages with a brush after they have been put on. The solution is prepared by dissolving boracic acid in warm water and adding thereto sufficient ammonia to form the borate which remains in the solution. The manner of using the solution is thus described: The saturation of the gypsum or painting of the plaster of Paris is carried out in the cold. The objects are subsequently rinsed off and dried. The surface becomes very hard after two days and insoluble in water, while the induration in the interior advances more slowly.

Progress of the Malarial Investigation in South Africa.—In last week's issue our London correspondent reported that the expedition sent to South Africa by the Liverpool School of Tropical Medicine has reported complete success in identifying the species of mosquito responsible for the dissemination of the malarial parasite. The *British Medical Journal* for September 2, 1899, announces editorially that it has received a telegram from Surgeon-Major Ross, forwarded from Las Palmas, containing the important information that in the genus *Anopheles claviger* he has succeeded in cultivating the quartan form of the parasite. The *Journal* says further: "Through the investigations of the Italians we were already aware of the fact that the tertian and summer-autumn parasites affected the anopheles as their host; but now Ross' discovery proves that the anopheles can also become the intermediate host of the quartan. The cycle had hitherto only been completed for two of the three differentiated parasites of malaria, leaving the quartan to be dealt with. This Ross has done, so that the anopheles is now proved to be an intermediary host for all known malarial parasites. Another important point settled by Ross' investigations is the fact that the quartan parasite is to be met with on the West Coast of Africa. The prevalent form of fever on the West Coast is the summer-autumn, the tropical malaria of Koch, and, although the tertian parasite has been found there in a few cases, we had no definite knowledge that the quartan parasite existed in these regions. We congratulate Major Ross on the excellent work he has done." It would seem that the malaria problem, and with it the making of the tropics habitable for the white race without the frightful mortality which has so far been necessary for the acquirement of acclimation, is near at hand. This pleasant prospect is practically all the result of the work of English and Italian pathologists, and they deserve the highest praise.

The Plague Situation.—At Oporto there have been no new cases and no deaths for some time. On the whole the epidemic seems to have been a very mild one; though the disease existed in the city for some three months there were in all less than eighty cases reported. The *British Medical Journal*, commenting on this mildness of the epidemic says: "Unfortunately this is no criterion as regards the future virulence, the recurrence, or the continuance of the disease. We are rich in the literature of the behavior of plague, and one thing which stands out more prominently in this disease than in any other is the inveteracy with which plague clings to any city or district where once it has established itself. Hong Kong, now in the throes of its fifth or sixth outbreak, is an example of this, and it is the chief example we possess in modern times to guide us in our knowledge, or to indicate the behavior, of plague. Poona, in India, rejoiced in the speedy disappearance of the initial visit of plague,

only to be cast down by the recurrence of an outbreak of increased virulence and of wider extent." The *Journal* counsels, therefore, the most strenuous efforts at complete eradication of the disease before there should be the slightest relaxation of precautions against the spread of it in Europe. At Alexandria there has been an occasional case reported during September at times when further outbreaks of the disease seemed surely at an end. At Poona the disease continues almost with unabated severity. A very virulent form of plague is raging there, and Lord Sandhurst, the Governor of Bombay, has visited the city. Lord Sandhurst regrets the spread of plague, in spite of measures taken to combat it. He draws a dark picture of the future in many parts of India, where the crops have failed owing to the failure of the monsoon rains, and that they have to face not only plague, but a famine of more or less severity. In Russia the situation is so much improved that all further danger seems at an end. The plague-stricken village of Kolobovka, in the Astrakan district, has been completely enclosed by a rigid military cordon. The first case of plague in the Kolobovka occurred on July 23d of this year, and since then twenty-four cases of plague have occurred with twenty-three deaths. The last death occurred on August 24th. It has not been ascertained whence the disease came, and a careful report on the surrounding districts by Prince Oldenburg states that nowhere in the neighboring regions is there any suspicion of plague. At Hong Kong plague matters remain in statu quo. Twenty deaths from bubonic plague took place there last week. Eighteen new cases have been officially reported. At Newchwang the situation is worse than before, and there seems to be good reason to think that the disease is being disseminated throughout Manchuria. The Russians fear that there will be a scare among the Chinese working on the Trans-Siberian railroad between Taheuwan and Newchwang. It is thought that it is the gathering of laborers for this work that has brought the plague from Hong Kong, Amoy, Canton, and other infected ports. It is at Newchwang they all disembark on their arrival. Fresh cases of plague are reported as having broken out at Magude, a little port not far from Lorenza Marques on Delagoa Bay, East Africa. At Mauritius there is not as yet any diminution of the virulence of the disease, over fifty cases a week are being reported and about thirty-five deaths. As we go to press the daily papers announce that the bubonic plague has broken out at Assuncion, the capital of Paraguay in South America. Assuncion is a city some sixty miles above Buenos Aires on the Paraguay River and has a population of about 30,000. The possibility of the truth of the report cannot be denied, though it may prove only a newspaper canard. It must be remembered that the plague existed at Oporto in Portugal for nearly two months before it was officially reported to other governments. There are, too, certain slow running cases of the plague that succeed in getting beyond even a watchful quarantine, which is not very likely to have existed in this case (when the ten-day limit for the development of the disease is accepted too literally).

MEDICAL MATTERS IN NEW YORK.

HEALTH BOARD PROVISIONS FOR THE DEWEY CELEBRATION—DR. SULLIVAN LOSES A FOOT—TO STOP THE SMOKE NUISANCE—IMPORTED LEPROSY—HOME FOR SELF-SUPPORTING WOMEN—A PAUPER WITH A BANK ACCOUNT—NEW HARLEM HOSPITAL—UNITED HEBREW CHARITIES—THE AMENDED DISPENSARY LAW.

PRESIDENT MURPHY of the Health Board has directed that a sanitary inspector be assigned to each of the various elevated railroad stations during the Dewey celebration, to see that the rooms and the means of egress and access to the trains are kept open, that no overcrowding takes place and that the community is protected.

Dr. Joseph Bryant of Manhattan, assisted by Drs. J. C. Kennedy and J. P. Murphy of Brooklyn amputated Dr. John D. Sullivan's right foot on September 12th. Dr. Sullivan is a Brooklyn police surgeon. When a child his foot was injured and he had limped ever since. This summer erysipelas attacked the member and necessitated the operation.

The Merchants' Association laid before its counsel on September 16th the result of the work of the special committee which made a tour the city for the purpose of noting the factories, buildings, tugs, and steamboats burning soft coal. An opinion has been rendered to the effect that all of the parties referred to in the memorandum could be proceeded against for burning soft coal—as committing a public nuisance. The government of bays and water highways is one that would come more particularly under the direction of the Federal officers, but no doubt these officers would work in harmony with the Board of Health in the prosecution of the delinquents.

A New York physician has written a letter to one of the lay dailies in which he "sounds a warning note" on the subject of imported leprosy. The writer cites the conclusions of the Berlin Lepra Conference to the effect that leprosy is contagious, incurable, and due to an organism existing only in man, that it is propagated by human currents, and that isolation is the only remedy. The problem, therefore, considers the writer, should be transferred from medical hands into Government hands, and is one "for the public press and not for the medical press." Several years ago there was a leprosy scare in this town. A law was passed in obedience to which some six unhappy creatures were isolated on North Brothers' Island. Soon the public got over its fright. Then some soft-hearted official, touched by the sight of these half dozen miserable human beings practically marooned upon this island, had a rowboat put surreptitiously upon its shore. To have freed them would of course have been an outrageous violation of the law. So, like the Arabs, they quietly stole away; and so the whole business ended.

The Regina Angelorum, a home for self-supporting working girls, was opened at 946 Lexington avenue on September 18th. It will be non-sectarian, although conducted under the auspices of the Catholic Church. The Sisters will give special care to the sick.

Eleanor Oldenbuttle, a widow, thirty-five years old, has lately died at Bellevue Hospital from Bright's disease and alcoholism. She was believed to be destitute until the Charity Organization Department notified Superintendent Blair of the Outdoor Poor Department that the woman had two large bank accounts.

President Keller of the Charities Department has asked the Board of Estimate to include $474,500 in his appropriation for 1900, for alterations and repairs to buildings. This sum is $274,500 in excess of the amount appropriated for the same purpose last year. The Commissioner considers that every cent he asks for is needed. Among other things, he intends to build a new Harlem hospital, which will cost $150,000. The entire amount asked for by Mr. Keller is $1,874,244, an increase of $293,512 over last year. All the Tammany officials have applied for increased appropriations, but, by all reports, Mr. Keller is one of the few who requires the increase, he asks, for strictly legitimate purposes.

The amended dispensary law for this city will go into effect on October 1st. A résumé of the provisions, therefore, may not be *mal apropos* at this time. A dispensary is declared to be any person, corporation, institution, association or agent whose purpose it is either independently or in connection with any other, to furnish, at any place or places, to persons non-resident therein, either gratuitously or for a compensation determined without reference to the value of the thing furnished, medical or surgical advice or treatment, medicine or apparatus, provided that the moneys used by and for the purposes of said dispensary shall be derived wholly or in part from trust funds, public moneys, or sources other than the individuals constituting said dispensary and the persons of said dispensary actually engaged in its distribution.

Each applicant before he receives a license, must swear that the dispensary is for the benefit of the public, and no one can conduct a dispensary without this license. The license shall not dictate which school of medicine shall be practised in the dispensary, but the State Board of Charities is empowered to visit and examine every dispensary and to revoke a license after due notice, if it finds that the law is being violated. The application for revoking shall be made to the Supreme Court.

No dispensary is permitted to be opened in a drug-store or in a tenement-house.

No one, except a duly licensed person or society, shall display any sign which would indicate the existence of a dispensary. Any person who violates the law is guilty of a misdemeanor, punishable by a fine of not less than $10, nor more than $250. The same fine is fixed as the punishment of any one who obtains dispensary relief by false representations.

CORRESPONDENCE.

THE DIDACTIC LECTURE—A REPLY.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In your issue of September 16, 1899, a correspondent quotes a communication of mine made to your columns several months ago and quite misrepresents my attitude toward the Didactic Lecture. Any one reading his letter without seeing mine would imagine that I do not believe in clinical and illustrative teaching and that I advocate the dryest form of didactic instruction. This is quite contrary to the fact. There are didactic lecturers and didactic lecturers, and one who does not know how to teach will abuse his opportunity. The point which I desire to emphasize is that the didactic lecture cannot be absolutely expunged from the roster of the medical school as some would have us believe, although of course such lectures should be much less numerous than they have been in years past.

I would not write this letter were it not that I do not wish to be placed on record by someone else, as advocating something which I do not advocate, and if your correspondent had as much difficulty in understanding didactic lectures as he has had in understanding what I have written, I do not wonder that he is utterly opposed to them.

In medical teaching, as in practical therapeutics, the safe rule is not to follow the enthusiastic advice of persons representing either side of a question; by following a well-guided middle course we can obtain those results which can be reached by adherence to the old rule of moderation in all things.

Very truly yours,

H. A. HARE.

PHILADELPHIA, SEPTEMBER 16, 1899.

MEDICAL MATTERS IN CHICAGO.

PANDEMIC OF INFLUENZA—REST-CURE HOME—MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

CHICAGO, September 18, 1899.

SINCE the last great pandemic of influenza, which reached its climax in Chicago in the epidemic of 1891–92, there has been no period altogether free from the disease, and in this city it appears to have become permanently domesticated. In 1891 there were 336 deaths from influenza reported to the Health Department; in 1892 there were 103; 88 in 1893; 51 in 1894; 165 in 1895; 17 in 1896; 15 in 1897; 281 in 1898; and 304 up to the close of July, 1899.

While these figures are not, in themselves, very alarming, they have a serious significance for the student and worker in preventive medicine. It is true that the influenza epidemic of 1891 added less than one and a quarter per cent. of deaths from influenza to the deaths from all other causes, and the 304 influenza deaths during the first six months of this year are only two and a quarter per cent. of the total deaths from all causes. But the indirect results of the epidemic disease, through its fatal complications of other diseases, swelled the total mortality-rate of 1891 by seventeen per cent. over the average mortality-rate of the previous five years, during which there was no influenza. The increase of the death-rate this year is not so marked, but it is still more than fourteen per cent. greater than the average of the previous five years, the lesser comparative increase being fairly at-

tributable to the prevalence of influenza, in a minor degree, during the previous five-year period.

There has been a marked preponderance of deaths among females from influenza as the sole or chief cause, the proportions being 58.4 per cent. of females to 41.6 of males; while the proportions are very nearly equal in the deaths of which influenza was assigned as a complication or a contributory cause. The proportions for both groups are 54.1 per cent. females, 45.9 per cent. males. During this period, January 1st to April 30th, inclusive, there were 9457 deaths from all causes, influenza included, of which number 5184 were of males and 4273 of females, the sex proportions among the influenza deaths and among the deaths from all causes being almost exactly reversed, 54.8 per cent. males, 45.2 per cent. females for the latter, and 54.1 per cent. females, 45.9 per cent. males for the former.

Fifty per cent. of the total deaths from influenza as the chief cause were among persons over sixty years of age, and 22 per cent. of the total were of persons between seventy and eighty years old.

The will of the late Judge Richard Prendergast, who died of pernicious anemia, provides for the foundation of a rest-cure home for those who are suffering from insomnia and nervous troubles. This home is to be located at Wheaton, Illinois, and one condition on which its establishment is based is that it be known forever as "St. Winifred's Rest," in honor of the wife of the testator.

The official program of the meeting of the Mississippi Valley Medical Association, to be held in this city October 3d to 6th, has been issued, and 35,000 copies of it distributed. Of 62 papers listed to be read, 29 are assigned to the medical, and 33 to the surgical, section. The general sessions will be held in Handel Hall on Randolph street, opposite the Masonic Temple. The medical and surgical sections will meet in the lodge rooms on the eighteenth floor of the Masonic Temple.

This society was originally known as the Tri-State Medical Society of Indiana, Kentucky and Illinois, and from its foundation has had a successful career. Its early meetings were well attended by the States represented in its membership. Its organization was due largely to the efforts of Dr. B. F. Swafford, its first president, and Dr. G. W. Burton, who was its secretary for eight years. At the meeting held in Indianapolis, as the attendance was no longer limited to the three States, it was unanimously decided to change the name of the society, and a committee brought in the name, "Mississippi Valley Medical Association." It was originally intended to limit the membership to members of the profession residing in the Mississippi Valley, but of late years there have been in attendance physicians east of the Alleghanies, and as far West as Utah. In point of numbers, this Association is second to the American Medical Association. One of the largest meetings in the history of the society was held in Louisville, when there were so many papers on the program that it was necessary to divide the meeting into two sections, medical and surgical. This had been attempted at previous meetings, but usually most of the papers were read in general session. The annual addresses have been special features of the Association for many years.

At the meeting in Louisville more definite organization was adopted, including constitution and by-laws, which put the Association upon a sound working basis. The most important change was made in the membership, which became continuous, dependent upon regular payment of dues, two-years' non-payment causing forfeiture.

Chicago has many excellent clinical teachers who have almost without exception consented to aid the Committee of Arrangements in making the coming meeting interesting and profitable. There will be a series of public clinics from September 25th to October 2d, inclusive, and from October 7th to October 14th, inclusive. The clinics, about 140 in number, will be held especially for the members and guests of the Association. The Committee on Hospitals will have it for their special duty to make visitors welcome at the various institutions, and to assist as far as possible in making the clinical features available. The clinics have been so grouped that visitors may spend the entire forenoon at one hospital and the afternoon at another. Where the time of clinics overlaps the committee has, so far as possible, aimed to parallel clinics on medicine and surgery, feeling that those who are interested in surgery can put in the most of their time on that subject, while those that are interested in internal medicine need not attend the surgical clinics.

SCIENTIFIC MEDICAL JOTTINGS FROM AMERICAN TROPICAL COUNTRIES.

TWO CASES OF URETHRAL CALCULI.

El Progreso Medico of Havana for August, 1899, in the report of a recent meeting of the Sociedad de Estudios Clinicas of Havana gives the details of two cases of urethral calculi. In both there had been considerable difficulty of urination extending over long periods of time, in one from early childhood. In one of the cases a small very hard tumor presented in the perineum; in the other the diagnosis was made with a sound. The stones were crushed by a small lithotrite and the fragments removed with urethral forceps. In one of the cases, after the removal of the calculus, a stricture developed. It was dilated but recurred almost immediately. A second dilatation was no more successful, and it was found on careful examination that a partial membranous diaphragm was obstructing the urethra where the calculus had been. Division of this with a urethrotome and subsequent dilatation was followed by the prompt disappearance of all symptoms and they have not recurred.

RECOGNITION FOR CUBAN MEDICAL HEROES.

El Progreso Medico is also publishing a series of photographs and biographical sketches of the medical men who fell serving the Cuban cause during the late revolution against Spain. The August number contains a sketch of Dr. Federico de la Torre y Latte, who fell at the engagement at Las Taironas in the Province of Pinar del Rio, January 17, 1896, while bravely fulfiling his duties as a surgeon on the firing line. His conduct dur-

ing all the time of his service with the Cuban army had been marked by such self-forgetting courage and unpretentious patriotism that his death called forth from his commander a letter to his friends full of the loftiest panegyrics. Cuba does well to honor her non-combatant heroes and the medical profession is to be complimented in not allowing the memory of heroic brothers to die out.

A DISEASE SPECIAL TO MINERS.

In the *Revista de Anatomia, Pathologica y Clinicas* of Mexico for June 15, 1899, Dr. Thomas Chaves describes a disease which has been noted among the miners in the gold and silver mines at Guanajuato, Mexico. The mines are very deep, among the deepest in the world and at the same time the most productive. The disease which attacks the miners has two forms, acute and chronic. In both forms a blood change with the development of an intense anemia is the most prominent symptom. In the chronic form the progressive anemia is followed by headache, vague pains all through the body, loss of appetite, and tendency to fainting spells, while the blood picture that develops is like that of leucemia. In the acute form of the disease the first symptom is a fainting spell with which the men are taken shortly after their entrance into the mine, though they may have seemed in excellent health just before going in. The faint is followed by intense headache, rumblings in the ears, thirst, nausea, at times coughing spells and further tendency to faint. Anemia rapidly develops if the patient is not carried off by the failure of some important organ and the leucemic picture of the chronic form asserts itself.

Dr. Chaves attributes the symptoms noted to an intoxication with gases from the minerals so recently uncovered and the undergoing often, therefore, of rather rapid changes in the presence of the oxygen of the air. Analyses made of the air in the mines showed that it contained distinct traces of antimonio-arseniuretted hydrogen and sulphoseleniuretted hydrogen. At times almost 1 per cent. of each of these mixed gases was present.

One of the mines mentioned is more than 2000 feet deep and it is to be remembered that owing to the compressibility of air, the atmosphere of a deep mine is very dense. The pressure is perhaps enough to disturb internal respiration as does working in a caisson unless precautions are taken. Whether this may not have an influence in the production of the symptoms described is worth investigating. We have in this country, besides in certain of the gold and silver mines in the copper mines an excellent opportunity to study the effect of condensation of the air at great depths on the respiration and general health of the miners. An investigation of the effects would be most interesting.—EDITOR.]

MINER'S ANGIOLEUCITIS.

In the same number of the *Revista de Anatomia, Pathologica y Clinicas* is a description of a form of angioleucitis peculiar to workers in mines. It does not occur after severe wounds nor does it follow amputations or surgical operations, but begins in a slight scratch or lacerated wound. It is always followed by suppuration for which the most successful treatment is free incision with the removal of affected glands. The constitutional symptoms of the disease are very severe. There is high fever, nausea and vomiting, followed in the worst cases by delirium and convulsions. The affection attacks the robust and healthy as well as the weak and sickly. Very often the site of the original injury does not suffer much from inflammation. Especially is this true when it is some slight injury of the fingers. In this case the lymphangitis usually begins at the wrist and spreads up the arm. Cultures of staphylococcus albus and aureus have been obtained from the pus, but there would seem to be some more virulent micro-organisms at work, very probably a pus-producing anaerobic microbe, if the usual character of the inoculation is to have its proper weight. The angioleucitis set up practically never disappears by resolution, though this termination is not infrequent in the ordinary forms of lymphangitis. In all cases in miners suppuration was looked for and did occur practically always.

ENLARGEMENT OF THE LIVER AND SPLEEN IN ANCHYLOSTOMIASIS.

This interesting parasitic disease was introduced into Brazil from Europe just as it was also brought to this country. In Brazil, however, the general neglect of sanitary precautions among workmen, in soil generally, as in mines, tunnels, brick-yards, etc., has led to the extensive spread of the disease there, so that now a number of cases of the affection are reported from various parts of the country. Dr. Pedro de Almeida Magalhaes, in the *Revista Medico de San Paulo* (a Portuguese medical journal of Saint Paul, Brazil), Anno II., No. 6 and 7, reports thirteen cases of the disease that have come under his observation. He has been struck by the fact that the liver and spleen in all of his cases could be clearly demonstrated by percussion to be enlarged. In three cases in which there was absolutely no malaria and no alcoholism in the history, this condition of enlargement of the liver and spleen was especially studied. Dr. Magalhaes thinks that it may be considered an invariable accompaniment of anchylostomiasis, at least in its severer forms. He considers that this disease is often mistaken in tropical countries for a chronic malarial cachexia and advises the careful microscopic examination of the stools in all cases of severe malaria. The characteristic eggs of the parasite betray its presence in the intestine and makes the diagnosis easy and certain.

A CASE OF FULMINANT MALARIA IN CUBA.

In *El Progreso Medico* of Havana (Anno IX., No. 2, August, 1899) there is report of a case of pernicious or fulminant malaria such as intending medical immigrants to the island may expect to see occasionally. The patient was taken with hematuria one evening, vomited blood next day and developed a temperature of 104.5° F. Icterus set in and rapidly became deeper and the patient died the next afternoon. For some hours before his death his temperature had been falling, reaching before the end 94° F. Dr. Jorge Le Roy y Cassa, who reports the case, does not believe in the administration of quinin for malaria and thinks that it is often the cause of the so-called

malarial hemoglobinuria, so none of that drug was used. Injections of Hayem's serum solution (practically normal salt solution) were made subcutaneously with the idea of washing the toxins out of the blood, but seemed to produce no effect. That the case was not one of yellow fever the autopsy and the fact that the patient was a mestizo, *i.e.*, a mixed-breed Cuban, all of whom are supposed to be immune to yellow fever, and that no yellow fever had been known to exist for a long while in the part of the country from which he came, all seem to show. The writer thinks he could also exclude the idea of this case being either the so-called severe icterus or the bilious fever of hot countries.

SOCIETY PROCEEDINGS.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting, Held June 21, 1899.

THE President, WILLIAM STEVENS, M.D., in the Chair.

CARCINOMA OF THE LIVER.

DR. J. H. FRUITNIGHT: The case which I desire to report is interesting on account of the difficulty experienced in making a diagnosis. The patient was seen early in the spring, at which time she presented indefinite symptoms. Then came gradual emaciation and failing of the vital powers together with obstinate constipation. By excluding the diseases in which emaciation and exhaustion are the predominant symptoms, we reached the conclusion that the patient was suffering from malignant disease, and, upon examining the organs *seriatim*, we found that the left lobe of the liver extended further to the left than it should and beyond the median line, that its border was sharper than normal, and that its substance was nodular. Two eminent practitioners of this city, who were called in consultation, confirmed the diagnosis of carcinoma of the left lobe of the liver.

ABSCESS OF THE MONS VENERIS.

DR. A. M. JACOBUS: Two weeks ago I was called to see a woman whose family physician had left the city for the summer on the previous day. I found a stout woman, thirty-five years of age, weighing about 180 pounds, with an ice-bag upon the mons veneris. There was a very tender swelling in that region and the patient seemed to be suffering greatly. I was told that a year previously an abscess had appeared there which had been opened by her physician, that it had closed prematurely (as she thought), and caused blood poisoning. The swelling was very hard, twice as large as a door-knob, movable, and appeared to be a localized cellulitis with pus in the center. It was situated over the pubic region between the muscles and the skin. As the patient refused to have it opened, and as fluctuation was not distinct, I ordered the ice-bag removed and flaxseed poultices, as hot as possible, applied every hour and a half day and night, in the hope that the abscess would point and discharge spontaneously. This it did two days later, the pus which was discharged being exceedingly offensive, blood-stained, and amounting to several ounces. The patient had been a widow for five years, and had never given birth to a child. There was no history of venereal disease or of injury, excepting that some four years before she had struck herself at that point against the corner of a table. This accident, however, was not followed by any special symptoms, and it is very doubtful if it had anything to do with the present trouble. No abnormality of the pubes or pelvic viscera could be detected, and no enlargement of the inguinal glands existed. The abscess was in the fat outside of the muscular tissue, as stated, and could be lifted up, showing that it had no connection with anything else. The patient did well and the induration about the sac gradually disappeared, the sinus being kept open with gauze until the last. The case is reported because of its rarity.

DR. P. C. COLE: I saw a somewhat similar case some four weeks ago. The attending physician had made a diagnosis of general peritonitis and appendicitis, and advised the patient to go to a hospital for operation. I incised the abscess and the patient promptly recovered.

DR. S. H. DESSAU: Dr. Jacobus' case reminds me of one seen in my service while connected with the New York Dispensary, in which there was an abscess of the abdominal wall just above the umbilicus. The woman recently gave birth to a child. I believe that these abscesses are now regarded as phlegmons of the peritoneum or localized peritonitis extending through and involving the abdominal wall.

DIPHTHERIA ANTITOXIN.

DR. DESSAU: I have on previous occasions reported to this Society several cases in which I have successfully employed antitoxin in diphtheria. I wish now to report another in which the child died of heart failure on the eighth day after the first injection. I do this in order to show that I am unbiased in my estimation of the remedy. The fatal termination in this instance cannot be attributed to the antitoxin. The case was a very severe one from the beginning. The pharynx, including the tonsils, soft palate, and post-nasal space, together with both sides of the nose, were involved, and the submaxillary lymphatics on both sides were immensely swollen. Five thousand units of the antitoxin were administered in two doses, 3000 and 2000. The child improved promptly, the membrane in the throat cleared up, breathing through the nose became free, and the swelling of the lymphatic glands of the neck subsided completely, but death occurred suddenly from heart failure, as is not uncommonly the case in diphtheria not treated with antitoxin.

DR. ROBERT NEWMAN then read the paper of the evening, entitled

BOTTINI'S OPERATION AND OTHER TREATMENT OF THE ENLARGED PROSTATE.

(See page 397.)

DR. ROBERT H. GREENE: The writer of the paper having requested that we discuss the causes of prostatitis among other subjects, I will say that in 216 cases of urethritis examined by me I found more or less prosta-

titis in more than forty per cent. This would tend to show that urethritis is a very active cause of prostatitis, although, of course, it may be due to other causes, such as sexual excesses, and apparently not infrequently to indigestion, giving rise to excess of uric acid or phosphates in the urine, and causing local irritation. The local treatment of prostatitis is not an easy matter, and often does more harm than good. Attention to the general health will often result in improvement. The patient should take plenty of exercise, and attention should be given to the diet and habits of life. So far as the Bottini method of treatment is concerned, the first case recorded in America was that by Dr. Weber a year ago this winter before the Genito-Urinary Section of the Academy of Medicine. Since then the operation has been performed a number of times by Dr. Willy Meyer and a number of other men, among them Dr. Guiteras, who nas read a paper upon the subject. I am familiar with Bottini's operation, for I have seen Guiteras employ it at the City Hospital in several cases. It is not difficult of performance. It apparently can be improved upon in several respects. First, in regard to the anesthetic. If cocain is depended on the patient will suffer a great deal in a large majority of cases, and it is much better to administer ether. Secondly, in regard to the batteries. Neither the street current nor the storage-battery made by the instrument-makers can be absolutely relied upon; therefore, it is best to provide two storage-batteries or to employ the street-current and have one storage battery on hand in case of necessity.

I am convinced that Bottini's operation can be performed with safety so far as danger to life is concerned; but when it comes to the results obtained this is another matter. In many of the reported cases the history has been very imperfectly recorded. It is hard to tell whether many of them were cases of true prostatic hypertrophy or not. Now, with this condition of enlarged prostate there is a state of congestion which apparently is responsible for a good deal of the enlargement which one feels with the finger in the rectum. For this reason rectal examination alone is not sufficient to determine whether or not the prostate is enlarged. This congestion is sometimes relieved by several different methods, after which there is a marked decrease in the size of the prostate on examination. To my mind, this is the effect which the Bottini operation has; neither more nor less than any other treatment, causing counter-irritation and reducing the congestion of the parts. No permanent good results apparently have as yet been obtained by the Bottini treatment.

Dr. Newman, in closing: I am obliged to Dr. Greene for the remarks he has made. What he says about the battery is very true; it is very difficult to get one that works well. One of my objections to the old Bottini instrument is that the platinum is too large and too soft, and requires a larger battery to heat it than can conveniently be carried about.

In regard to the causes of prostatitis, in addition to those mentioned by Dr. Greene are gonorrhea and injudicious injections of nitrate of silver into the deep urethra.

As to the results obtained by the Bottini method, I would remind Dr. Greene that not all cases are curable, for much depends upon the amount of the hypertrophy, stage of the disease, complications which may exist, and constitution of the patient. I have cured many cases of hypertrophy of the prostate with my galvanocautery sound, some of which have been reported.

REVIEWS.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Vol. XVI. "Infectious Diseases." New York: William Wood & Co., 1899.

In the perusal of a paper on an acute infectious disease the reader is often impressed by the scientific knowledge shown by the author rather than by the practical character of the description of the disease. This criticism can certainly not be made of the chapter devoted to lobar pneumonia in the sixteenth volume of the "Twentieth Century Practice." It is a scholarly and eminently practical contribution from the pen of Dr. A. H. Smith of New York. We have been much impressed by the excellent clinical description given therein, of the pathology and symptoms of the disease. Pneumonia is not a mere inflammation of the lungs, says Dr. Smith; it is to be regarded as an acute general toxemia depending upon a local manifestation in the pulmonary areas. A good account is given of the results thus far obtained with the antipneumococcic serum and of the difficulties which beset laboratory experimentation along this line. We can highly endorse Dr. Smith's views as to the prognostic importance of the continued accentuation of the second pulmonic sound during the course of the disease.

Professor Netter contributes a well-written and comprehensive paper on cerebrospinal meningitis. The author believes that the warm bath is a specific method of treatment in this affection, and he recommends it as such. Lumbar puncture is a diagnostic, but never a curative method. The article on dysentery is written by Professor Sodre of Rio Janeiro. Considerable evidence is collected to prove that dysentery—especially in tropical climates,—is generally due to infection by the ameba coli.

Dr. Alford Nichols of Dominica, West Indies, writes on yaws and clearly points out the difference between this disease and syphilis. The article on inflammation, by Professor Ziegler, ought, it seems to us, to have had its proper place at the beginning of the thirteenth volume of the series. The article is well written and exhaustive; we regret that lack of space prevents us from discussing some of the interesting theories advanced by the author.

The section devoted to erysipelas is from the pen of Dr. Kiliani of New York. It is concise and contains an interesting account of the methods and results obtained in treating the disease with the antistreptococcic serum. Not all writers are as optimistic as Dr. Kiliani regarding the results to be obtained with the serums as now made.

Thus Koch and Petruschky have shown that the antistreptococcic serum as now made vary greatly both in strength and in efficiency. Dr. L. B. Edwards contributes a short article on simple continued fever, and is followed by Professor Popoff of St. Petersburg, with a detailed and full description of relapsing fever. The historical section is well-written and the bacteriological description is very complete. Several excellent plates illustrate the text.

Dr. Thatcher of New York writes on the etiology and general pathology of typhoid fever, and Dr. Brannan describes the symptoms and treatment of this important disease. An exhaustive description of Eberth's bacillus, its generic characters and the methods in vogue for its isolation is given. Dr. Thatcher places rather a high value on the acid potato gelatin recommended by Elsner as an isolating medium. The pathology of the disease is well described, due importance being given to typhoid fever without intestinal lesions. The symptoms of the disease are discussed with thoroughness by Dr. Brannan. The surgical complications are enumerated, due credit being given to Professor Keen's excellent work on this subject. Special sections are devoted to typhoid fever in infancy, childhood, and old age. The principles underlying the eliminative and antiseptic treatment of the disease, of Woodbridge and of Thistle, seem, to Dr. Brannan "to be sound though the results fall short of the claims of its chief advocates." A good *résumé* of the results thus far obtained with attenuated bacterial cultures and with antityphoid serum is given. In conclusion we may say of the present volume that it is fully up to the standard of previous ones, and reflects credit alike upon the editor and the contributors.

PRACTICAL DIAGNOSIS. The Use of Symptoms in the Diagnosis of Disease. Fourth edition. By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1899.

THE fourth edition of this popular work does not differ much from its predecessors in the text, although we note some additions made necessary especially by the advance in laboratory methods of diagnosis. The newer methods of serum diagnosis are fully set forth in this edition and the essential directions for their application are given. The book abounds, as heretofore, in points of the greatest practical value in the establishment of a clinical diagnosis. Several new illustrations and photographs have been added. Of its kind, Dr. Hare's book is certainly unique in its combination of the eminently practical and the necessarily theoretical elements of clinical diagnosis.

THE NEWER REMEDIES. A Reference Manual for Physicians, Pharmacists and Students. By VIRGIL COBLENTZ, A.M., Ph.D., Professor of Chemistry and Physics in the New York College of Pharmacy. Third edition. Philadelphia: P. Blakiston's Sons & Co., 1899.

THE author has included in this little book a consideration of the main synthetic compounds which have appeared since the last edition. As far as has been possible, the chemic composition of the new drugs has been given. The silver compounds attract attention by their number and it is evident that the number of intestinal antiseptics has increased wonderfully. The book is certainly a valuable one for reference to the multiple remedies which the skill of the chemist and the enterprise of the manufacturer is constantly providing.

THE PHILOSOPHY OF MEMORY AND OTHER ESSAYS. By D. T. SMITH, M.D., Lecturer on Medical Jurisprudence in the University of Louisville. Louisville: John B. Morton & Co., 1899.

IN this collection of essays the author attributes too much power, it seems to us, to the forces of Nature in the evolution of memory, omitting factors in its development which are recognized by naturalists as playing important rôles. His essays on "The Functions of the Fluid Wedge" and "The Laws of Riverflow," are certainly extreme in their position and we confess we are unable to criticise them. The essays certainly make interesting reading.

HANDY BOOK OF MEDICAL PROGRESS; a Lexicon of the Recent Advances in Medical Science. By CHARLES WARRENNE ALLEN, M.D., Consulting Dermatologist to the Randall's Island Hospitals, etc., and JACOB SOBEL, A.B. M.D., Dermatological Assistant to the Good Samaritan Dispensary. New York: William Wood & Company, 1899.

ONE can hardly be expected to take this little book seriously. Its title is a misnomer and its plan is a perversion. It purports to be a somewhat more than dictionary explanation of the names and titles of new medical data, alphabetically arranged. In glancing through the pages one will meet, here and there, definitions of a few new names of recently described signs, symptoms and diseases. He will be more apt to encounter paragraphs on titles other than new, relating to subjects by no means recent, and described in words that might fit into a text book a dozen years old; and he will be just as apt to find, chosen with the same inscrutable arbitrariness, descriptions of numerous proprietary preparations. Even in these the work is incomplete.

MATERIA MEDICA, THERAPEUTICS, Medical Pharmacy, Prescription-writing, and Medical Latin. By WILLIAM SCHLEIF, Ph.G., M.D., Instructor in Pharmacy in the University of Pennsylvania. Philadelphia and New York: Lea Brothers & Co., 1899.

THIS handy volume which, from its binding, one might mistake for a collection of poems, is one of the publishers' series of pocket text-books, edited by Dr. Bern B. Gallaudet of this city. They represent, apparently, an amplification of the excellent series of quiz-books published by the same firm and also edited by Dr. Gallaudet.

The work presents no unusual feature. It is a condensation of the essential facts of our materia medica, conveniently arranged. It is scarcely a compliment to the medical profession to print on the title-pages of these

pocket-works and of quiz-books: "A Manual for Students and Practitioners." While some practitioners may from time to time find use for so condensed a reference, they are more apt to turn to standard works for their information. These little manuals are written especially for students, among whom they must find their greatest sale.

PULMONARY TUBERCULOSIS: Its Modern Prophylaxis and the Treatment in Special Institutions and at Home. Alvarenga prize essay of the College of Physicians of Philadelphia for 1898. Revised and enlarged. By S. A. KNOPF, M.D., with descriptions and illustrations of the most important sanatoria of Europe, the United States and Canada. Philadelphia: P. Blakiston's Son & Co., 1899.

THIS work needs no apology for its existence; if for no other reason, the encouragement to be derived from the hopefulness and earnestness that stamp its pages is decidedly wholesome. But it has, beyond this, an intrinsic scientific merit. It is thorough, but not exhaustive; convincing without being argumentative; and original, but carefully avoids all that is not proven.

The author at the outset begs us not to despair in the absence of specific treatment. With the means we have at our disposal tuberculosis is a preventable disease, and, especially in its pulmonary forms, a curable one. Nor is its curability as infrequent or as difficult as is generally believed. The author then devotes himself to the exposition of those methods of treatment best adapted to the cure of phthisis. These, he teaches, are the hygienic, dietetic, respiratory (gymnastic), aero- and hydrotherapuetic and medicinal—usually most successful when carried on in a well-conducted sanatorium, but of paramount importance and of the greatest value even at home.

Both at home and in a sanatorium, careful and constant medical supervision is absolutely essential. To climatic influences the author relegates a secondary rôle, as being of less importance than institutional and hygienic influences. Nevertheless, climatic treatment forms a valuable and often indispensable adjuvant. Several pages are devoted to it; from which the conclusions are deduced that while some climates may be posted as harmful to certain classes of phthisical patients, no climate can be assumed to be beneficial to any individual case without actual trial.

A large part of the book is devoted to illustrated descriptions of the most important sanatoria of Europe and America. A supplementary chapter outlines the author's plans of an ideal sanatorium.

The social problems which tuberculosis entails are succinctly treated of. The public measures essential to the prophylaxis and extermination of human and bovine tuberculosis, as here outlined, are neither complicated nor extremely difficult to carry out. The importance of national regulations—another plea for a national health board—is made very plain. Sanitary tenements for the poor is another prophylactic institution referred to.

The work is not clinical. It avoids an excess of statistics, adding thus to its simplicity and interesting style. It will appeal, as it is indeed dedicated, to all hygienists, and public men, as well as to physicians—for, in matters of public health, the latter can only insure what the former must help to secure.

THERAPEUTIC HINTS.

Treatment of Certain Manifestations of Grip.—Inflammations of the mouth, pharynx, nose, or ears occurring in the course of grip should be immediately and vigorously combated, according to LEMOINE of Lille, as they may otherwise give rise to grave complications. For aphthous stomatitis he recommends irrigation twice a day with Labarraque solution (five per cent.), introducing the irrigating tube nearly to the palate in order to cleanse the entire buccal mucosa. The stomatitis is thus cleared up generally in two days. Similar treatment is used in case of tonsillitis and pharyngitis. For children who object to the taste of the Labarraque solution the following may be substituted:

℞ Ac. lactici . . . . . *m.* xl
Ol. menthæ piper. . . . . gtt. x
Aquæ . . . . . ℥ viii.
M. Sig. For irrigation.

When there is a tendency to tonsillar suppuration the tonsils and pillars of the fauces should be thoroughly swabbed also with the following:

℞ Ac. salicylici . . . . gr. viii–xvi
Spiritus . . . . . q. s. ft. sol.
Adde:
Glycerini . . . . . ℥ i
Aquæ . . . . . ℥ ii.
M. Sig. External use.

For rhinitis a spray of liquid vaselin containing menthol (two per cent.) is employed, treating the nostrils alternately, and afterward a small quantity of ordinary vaselin containing menthol (two and one-half per cent.) is placed at the opening of both nostrils.

For otitis a resorcin solution (two per cent.) is instilled into the external auditory canal, this being the best antiseptic for the purpose in cases of grip. It may prevent suppuration.

Applications for Burns.—

Of first degree:

℞ Zinci oxidi . . . . gr. lxxx
Magnesii carb. . . . ʒ iiss
Ichthyol . . . . *m.* xv–xxx.
M. Sig. External use.

Of second degree:

℞ Zinci oxidi . . . . gr. lxxx
Cretæ prep. } aa. . . . ʒ iiss
Pulv. amyli }
Ol. lini }
Aq. calcii }
Ichthyol . . . . . *m.* xv–lxv.

M. Ft. unguentum. Sig. External use. Change dressing every twenty-four hours.

If inflammatory symptoms are marked cover the affected area first with the powder and then apply the ointment.—*Leistikow.*

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ORIGINAL ARTICLES.

DIPHTHERIA: ETIOLOGY, DIAGNOSIS, PROPHYLAXIS.[1]

BY JOHN DUDLEY DUNHAM, M.D.,
OF COLUMBUS, OHIO;
BACTERIOLOGIST TO THE COLUMBUS DEPARTMENT OF HEALTH.

THE bacillus discovered by Klebs, afterward studied by Loeffler, is all but unanimously accepted by those who are considered authorities and by physicians in general as the real etiologic factor in the production of diphtheria. Not infrequently an article may be noticed from the pen of a talented man[2] who claims that the Klebs-Loeffler bacillus is not the cause of diphtheria because it is not found in every case of the disease, is found in healthy throats, and does not produce the typical disease when inoculated into animals, and, indeed, that the modern doctrine of bacteriology is a gigantic mistake.

There are, it is true, a few cases which present the clinical features of diphtheria in which the Klebs-Loeffler bacillus is not found, but could we eliminate the personal equation, make our technic absolutely perfect, and be assured that the bacilli if present in very small numbers on the false membrane would invariably be secured by the process of swabbing, it is undoubtedly true that the germs would be found in every case of the disease.

The objection against its acceptance, that the diphtheria bacillus is found in healthy throats, is not sound. Even the rigid scientific postulates of Koch do not insist upon such a condition. The Loeffler bacillus when injected subcutaneously into animals does not produce typical diphtheria, but *does* cause pseudo membranes to appear on mucous surfaces. Then again, injection into animals causes paralysis, which in character, localization, and time of occurrence are very like those seen in man.

The most conclusive evidence, however, of the action of the diphtheria bacillus upon susceptible animals is furnished by the personal experience of McFarland.[3] To quote from the account given in his text book: "All possible skepticism of the specificity of the bacillus on my part was dispelled by an accidental infection which kept me housed for three weeks during the busiest season of the year. Without having been exposed to any known diphtheria contagion, while experimenting in the laboratory, a living virulent culture of the diphtheria bacillus was drawn into a pipette and accidentally entered my mouth. Through carelessness no precautions were taken to prevent serious consequences, and as a result of the accident two days later my throat was full of typical pseudo membrane, which private and health-board bacteriological examinations showed contained pure cultures of the Klebs-Loeffler bacilli."

The experiment thus inadvertently inaugurated and carried forward by McFarland furnishes a very conclusive proof of the third rule of Koch in regard to the germ under consideration. It will be remembered that this prescribes that a given organism, when injected into a susceptible animal, must produce the disease.

The notion prevalent in some quarters that sewer-gas is a means of inducing the disease is evidently not based upon scientific truth. Bacteria do not rise from moist surfaces, hence this factor as a source of infection must be disregarded. Another statement by Smith[1] is that diphtheria has been on the increase in spite of the fact that systems of sewerage, in England especially, have been greatly improved.

The dairy, when cared for by persons sick with diphtheria, or by those who harbor the germs in their throats, has been proved to be an important focus for the distribution of the disease. This is well illustrated by cases noted by Howard[2] at Ashtabula, Ohio.

The crowding which is occasioned by life in tenements seems to favor the continuance, as well as the dissemination of the disease.

London shows a marked decrease in the number of cases during the summer or vacation months.[3] This is also true of other cities; therefore the congregation of children in schools is undoubtedly responsible in a measure for the spread of the disease.

The conclusion to which bacteriologists and clinicians have been forced in regard to the diagnosis of diphtheria is that the presence or absence of the

[1] Read at the Meeting of the Ohio State Pediatric Society, held at Springfield, Ohio, May 9 and 10, 1899.
[2] Bantock, *Brit. Med. Journ.*, April 8, 1899.
[3] McFarland, "Text-book upon Pathogenic Bacteria," second edition, p. 294.

[1] *Lancet*, October 16, 1897.
[2] W. F. Howard, Jr., *Amer. Jour. Med. Sciences*, December, 1897.
[3] J. C. Thrush, *Brit. Med. Journ.*, August 22, 1896.

Klebs-Loeffler bacillus must be ascertained before an intelligent opinion can be formed as to the nature of the disease.

That the character of the membrane is not a safe guide to a diagnosis is insisted upon by Vierordt,[1] and many others, who have found typical lacunar anginas with the presence of the Loeffler bacillus. These cases often lapse into typical diphtheria, hence the great importance of a bacteriologic examination early in the course of the disease.

The choice of a culture medium for the rapid and accurate diagnosis of diphtheria has been much discussed by bacteriologists. Loeffler's blood serum mixture is in most general use at the present time. With the aid of this medium one is able to make a diagnosis within twelve hours. The method proposed by Ohlmacher, the examination microscopically of the still invisible growth after five hours in the incubator, seems to be quite reliable. During the past year in the Laboratory of the Department of Health of Columbus, forty six cases were examined at the end of five hours, and again at the end of twelve hours. In every instance at the end of twelve hours I found the diagnosis identical with that obtained after five-hours' growth.

Loeffler's blood-serum mixture, in addition to furnishing food for development of the diphtheria bacillus, supplies a nutritious soil for the growth of the staphylococcus and the streptococcus. The latter species sometimes interferes with a proper diagnosis of the case. To eliminate this possible error and to secure a uniform medium, Joos[2] makes use of a serum-agar, upon which the Loeffler bacillus thrives, the streptococcus will not grow, while the staphylococcus shows a meager growth. Upon this medium small colonies of the Loeffler bacillus may be seen after four- or five-hours' growth at body temperature. Colonies of ten to twelve-hours' growth are fully developed, and are much larger than those grown upon the Loeffler mixture. Joos has examined more than 100 cases, both by Loeffler's method and his own. The conclusion is that his method is simpler, equally accurate, and more rapid. If these results are corroborated by other investigators there is no doubt that this newest medium is well-nigh perfect. The medium proposed by Joos is as follows: 300 c.c. of ordinary blood serum; 50 c.c. of normal sodium solution; 150 c.c. of distilled water or bouillon. This is placed in a flask, heated in a water-bath for two or three hours at 60° to 70° C., and the flask is then placed in a steam sterilizer for from half to three-quarters of an hour; 500 c.c. of pepton bouillon and 20 grams of agar, which is dissolved as rapidly as possible, are then added. When the solution is perfect it is at once filtered, hot, and sterilized for a quarter of an hour in the autoclav at 100° to 110° C., after which it is poured into Petri dishes.

Prophylaxis.—The most notable point in a consideration of prophylaxis in diphtheria is that while proper measures have been utilized in the disinfection of apartments and clothing the disease is on the increase. The explanation of this inconsistency is undoubtedly in the well established truth that convalescents and persons associated with diphtheria patients become carriers in their throats of virulent diphtheria bacilli. Healthy persons are then infected by association with these diphtheria carriers, as they may be called.

Certain practises in schools conduce to the spread of the bacilli from the throats of the apparently immune to those who are susceptible. Among others may be mentioned the use of slates or lead pencils from a common stock, which necessitates the interchange of these articles from day to day. The common drinking-cup is also a frequent disseminator of the disease. Müller[1] investigated the throats of 92 children in the Charité Hospital at Berlin. The Klebs-Loeffler bacillus was found present in 20 children having no changes in the throat. Six showed the presence of the germs upon entrance to the hospital, while 14 were infected after admission. The spread of the bacilli from bed to bed could readily be observed. One patient had virulent bacilli in the throat for two and one-half months. Animal experimentation proved the virulence of the bacteria in twelve cases. Aaser[2] found that disinfection of a barracks occupied by a diphtheria patient and sterilization of clothing by steam at 110° C. did not check the spread of the disease. An investigation of the throats of the 89 men in the barracks, with the discovery that 17 contained virulent Loeffler bacilli, furnished a clue to the progress of the disease. These 17 suspects were isolated. One developed classical diphtheria, 2 lacunar angina, others remained well, except for a reddened condition of the fauces which persisted as long as the bacilli were found.

The experiences of the authorities just cited, as also of others, lead them to the belief that all persons who harbor Klebs-Loeffler bacilli in their fauces should be isolated. In one healthy child no method of treatment proved sufficiently potent to remove the bacilli from the throat, whereupon the isolation continued nine months.

[1] *Berliner Klin. Woch.*, November 8, 1897.
[2] "Untersuchungen uber Diphtheriediagnose," *Centralbl. f. Bakt.*, Band xxv, No. 8–10, March, 1899.

[1] "Yahrbuch f. Kinderheilkunde," Bd. xliii, Heft 1.
[2] *Deutsch. Med. Woch.*, No. 22, 1895.

The solution of this moot question would seem to be in the discovery of some treatment which would be effective in the elimination of this fatal disease producer. Until such knowledge is at hand there can be no doubt that our duty as practitioners is to isolate persons with Klebs-Loeffler bacilli when such a procedure is practicable.

The proof that diphtheria is at times communicated to susceptible persons by those in whose throats Loeffler bacilli are present led me to an investigation of the throats of a number of general practitioners as to the presence of the Klebs-Loeffler bacillus The appended table, embodying the results of these experiments, shows that of a total of 11 throats of healthy physicians examined, 2 showed virulent Klebs-Loeffler bacilli, two yielded pseudo-diphtheria bacilli, and 7 gave no significant growth:

Doctor.	Cases of Diphtheria or Tonsillitis in Practice at Time of Examination.	Result of Examination of Throat.
1.	No cases for three weeks.	No Klebs-Loeffler bacilli.
2.	Two cases of pharyngitis.	Pseudo-diphtheria bacilli.
3.	Two cases of tonsillitis.	No Klebs-Loeffler bacilli.
4.	Dismissed a case of diphtheria ten days before.	Klebs-Loeffler bacilli in pure culture. Luxuriant growth. Guinea-pig inoculated with culture showed a grayish membrane, necrosis and edema.
5.	One case of diphtheria.	Klebs-Loeffler bacilli present showing a slight growth. The bipolar stain well marked.
6.	Two cases of sore throat.	No growth.
7.	Several cases of pharyngitis.	Showed a streptothrix.
8.	No cases of throat disease for several weeks.	Sarcina.
9.	No cases recently.	No growth.
10.	One case of syphilitic sore throat; one case of tonsillitis.	Staphylococcus pyogenes aureus.
11.	No cases for several weeks.	Pseudo-diphtheria bacilli present.

It will be noted that the physician represented by Case IV. had ten days previously dismissed as cured a patient who had been sick with diphtheria and this same physician had in his throat Loeffler bacilli. The bacilli took the bipolar stain and seemed quite typical, but in order that their virulence should be established a guinea-pig was inoculated subcutaneously. The animal developed an area of necrosis about the seat of the injection. The necropsy showed the formation of a grayish membrane; in fact, the tissues surrounding the part were extensively edematous, and the internal organs were markedly congested. Typical bacilli were found at and near the seat of inoculation.

The subject of Case V. was treating a patient with diphtheria at the time his throat was swabbed. The typical Loeffler germs were found in rather scanty growth after twenty-four hours. The bipolar stain was easily produced in these cells; the bacilli were of the long and slender variety, hence did not bear a resemblance to the pseudo-bacillus. In mingling the culture with water, the material did not, as is true with the pseudo-bacillus, mix readily, but showed persistent little granules. This was probably the true bacillus capable of inducing the disease when in a favorable throat.

The result of this work is not without interest, in that there is in it unquestionably a partial explanation of the spread of diphtheria. The work of Flügge has shown that the minute droplets of saliva produced in conversation and thrown out in the act of phonation carry with them any bacteria which may be present in the throat. There is sufficient ground to conclude that physicians in this manner become unconscious aids in disseminating the disease.

In the light of the foregoing statements, there are certain precautions which should be observed in an effort to restrict diphtheria: First, the bacteriologic examination of every patient with a sore throat, not only for the sake of the patient, but also in the interest of others, who, when infected, may have a more serious form of the disease. Second, the isolation, when practicable, and an attempt at the removal of diphtheria bacilli in every case of convalescents and others harboring the germs in their throats. Third, a watchful care should be exercised by physicians to avoid contamination from diphtheria patients, and efforts should be made to free their throats of germs when present.

SUGGESTIONS CONCERNING EARLY DIAGNOSIS IN PULMONARY TUBERCULOSIS.[1]

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FEW subjects in recent years have attracted greater interest in the profession than the general problem of pulmonary tuberculosis. With a view to the ultimate lessening of the disease, medical attention has been directed to the advocacy of its prevention, restriction, and control through governmental authority and provision. More exact knowledge concerning its contagiousness has been promulgated among the laity by the dissemination of educational literature. Concerning certain special methods of treatment much has been written by enthusiastic, and occasionally conscientious, observers. Greater recognition is being given to the general conservative measures of management, the adaptability of

[1] Read at the sixteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

various climates to the different stages of the disease, and a greater appreciation accorded the beneficent influence in the community of carefully conducted sanatoria. Yet the unfortunate fact remains that thousands of lives are being sacrificed annually on account of mistaken or delayed diagnosis. It is now generally accepted that consumption is a curable disease, in the sense of its permanent arrest; that the earlier the diagnosis, the better the prognosis; and that only in early cases are genuinely satisfactory results obtained. The time is coming when the profession will not accept the somewhat vague reports of observers concerning various degrees of improvement secured from climatic change, serum-therapy, or general management. Rather will it demand more definite statements as to permanent results, with special reference to total arrest, shown by the well-substantiated absence of rational symptoms and physical signs. Such will be the basis in the increasing multiplicity of reports upon which authentic conclusions will eventually be based. Recorded results of such a satisfactory nature will never be rendered save in those cases in which the diagnosis is made early and the cases come under trained observation in their incipiency. Generally speaking, it has not been such a class of cases that I have been privileged to observe in Colorado, where the advanced case is the rule and not the exception.

Early diagnosis, then, assumes a position in the general consideration of pulmonary tuberculosis of vastly more practical importance than climatic change, general management, or prophylaxis. It is true that perfect accuracy of diagnosis may be established by the recognition of the tubercle bacillus, but not always before the destructive process has already considerably advanced, the constitutional disturbance pronounced, or even the development of secondary infection. I have not infrequently failed for a considerable period to discover the bacilli in the sputum in cases in which the physical signs furnished indubitable evidence of a recent and not inactive tuberculosis. In other cases the significance of the symptoms and signs has been incontrovertible before the appearance of expectoration. Due recognition is given to the diagnostic value of the tuberculin reaction. Recent investigations with the Röentgen-rays disclose their utility for diagnostic purposes in thoracic disease. Neither of these, however, by reason of the necessary restrictions upon their employment are ordinarily within the immediate reach of the general practitioner. The claim has been made for the diagnosis of the so-called pre-tubercular state from the morphology of the blood, but it has thus far lacked satisfactory confirmation. In view of the frequent obvious difficulties for the clinician in establishing an exact and early diagnosis through the agency of the microscope, the Röntgen-rays, and the tuberculin of Koch, is it not profitable at this time to review the well-known and perhaps old-fashioned principles of diagnosis with the aid of the stethoscope and thermometer, the careful and painstaking application of which are too frequently overlooked? The distressing results of error and delay have not been occasioned by inability to apply the newer diagnostic principles, but on account of the failure to adequately appreciate the significance of rational symptoms, to recognize accurately the physical signs, and to properly interpret their import. In the majority of instances the available data for diagnosis has been amply sufficient to warrant its provisional establishment and demand for suitable advice as to the mode of life and residence long before the medical attendant has awakened to a realization of his responsibility.

As illustrative of this I will refer briefly to observations made from my own experience. In reviewing my recorded cases of pulmonary tuberculosis I have selected therefrom a series of 546 seen in private practice and continued under observation for a considerable period in Colorado, although the disease was contracted elsewhere. Three hundred and eighty-eight, or 71 per cent., of the subjects arrived in the State with distinct evidences of tubercular infection in each lung. With reference to the duration of the disease before arrival, my statistics, computed from a conscientious inquiry concerning the time of onset of definite symptoms characteristic of the disease, are as follows: Less than 3 months thereafter, 36; 3 to 6 months, 65; 6 to 9 months, 67; 9 to 12 months, 70; 12 to 18 months, 83; more than 18 months, 225; total, 546. The total average period of delay in 546 cases is a little more than 18 months, affording abundant opportunity for advanced pulmonary and constitutional impairment. The average loss of weight from the normal at time of arrival is 19 pounds. Sixty-four and one half per cent. of the patients presented marked constitutional disturbance, as evidenced by a considerable rise of temperature, feeble and rapid pulse, distressing cough with abundant expectoration, impaired appetite, and a correspondingly greater loss of weight. Nearly 62 per cent. of this class did not seek climatic change until after one year had elapsed following the development of the disease, and 80 per cent. until after 6 months. One hundred and five, or 19.2 per cent., had well-defined cavities, nearly all of these exhibiting pronounced rational symptoms of constitutional disturbance, with rather more than the average loss of weight and an average duration before arrival of 20½ months. Two hundred and

seventy, or 47.6 per cent., presented a family history of strong inherited susceptibility to tuberculosis.

Concerning the method of onset, 83, or 15.2 per cent., upon careful investigation may be safely considered to trace the origin of the disease to a distinct attack of influenza. The average duration of the disease in this class before arrival was a little more than 12 months, much shorter than the period for the total number, while the average loss of weight was 21.9 pounds. It is perhaps interesting to note, somewhat irrelevantly, that the number of such cases has materially diminished during the past few years, the proportion in the first 200 cases—from 1892 to 1895, inclusive—being 19 per cent.; during 1896 and 1897, 18 per cent.; and for the 200 cases in 1898, being but little more than 9 per cent.

One hundred and twenty-nine patients, or more than 21 per cent. stated the onset to be of a definite bronchitic character with an average duration of 15 months and 24 days following the inception of a severe cold. The average loss of weight was 17.1 pounds. One hundred and fifty-nine, or 29 per cent., described it to be of a gradual anemic onset with an average period before arrival of nearly 2 years. The loss of weight was 17 pounds. One hundred and fourteen, or 20.2 per cent., presented the history of a sudden hemorrhage as the first symptom distinctly referable to the disease. Of this class the average loss of weight was 17.6 pounds, and the average duration before arrival was 2 years, 3¼ months, much longer than the average of the total number. Exclusive of those with definitely hemorrhagic onset, 134 had suffered from one or more hemorrhages in the subsequent course of the disease before arrival. Sixty-one are unclassified with reference to the method of development, a very considerable number of these following measles, typhoid, and pleurisy. Singularly, an equal number, 61, are found to have experienced a distinct idiopathic pleurisy either preceding the apparent origin of the pulmonary process, occurring as an initial manifestation, or developing subsequently. In 14 of these an effusion had been recognized. The average period following the pleurisy before arrival was 36 months.

Is not the character of the cases sent to Colorado a striking commentary on the necessity of a more thorough appreciation of the principles capable of everyday application, upon which to base early diagnosis? One of the significant features of the analysis is the relatively shorter period before arrival, especially in those cases beginning with influenza, and to a less extent in those with bronchitic origin, as compared with the longer duration of those with anemic, and more particularly hemorrhagic onset. It would seem to be apparent from this, (1) that cases beginning with an acute attack of influenza pursue a more rapid course, according in general earlier diagnosis and demanding more prompt climatic change; (2) that the occurrence of a hemorrhage does not convey to the mind of the medical attendant, as would naturally be supposed, its full and startling import as a diagnostic feature.

It is not my purpose to attempt a wearisome recapitulation of the rational symptoms and physical signs of pulmonary tuberculosis so familiar to us all. I am impressed, however, from a constant and more or less intimate association with pulmonary invalids that there are a few factors of recognized importance which are frequently ignored by the busy practitioner.

As regards the rational signs, the non-appreciation of the significance of morning cough, even without expectoration, persistent daily rise of temperature, loss of weight, and other well-known evidences of constitutional impairment would indeed appear inexcusable. But how often do we find denial or absence of cough, periods of normal temperature, and even recent increase of weight in the presence of fairly definite physical signs in the same way that we may fail to detect satisfactory physical evidences of the disease, despite rather pronounced subjective symptoms? It is apparent that the presence or absence of no single rational sign can be safely accepted as a factor of paramount diagnostic value. The grouping of certain clinical manifestations, without other satisfactory cause, should lead to strong suspicions of a concealed focus of tuberculosis despite immediate absence of physical signs. It must be added, however, that in the majority of instances the signs are present and recognizable once a thorough examination of the chest is made.

As preliminary to a detailed consideration of the rational signs on the part of the medical adviser there should be instituted a careful inquiry as to the extent of inherited susceptibility, the history of the individual with reference to the previous existence of idiopathic pleurisy with or without effusion, an apparently trivial or remote pulmonary hemorrhage, the occurrence of grip, a succession of colds, a protracted convalescence from typhoid or malaria, the history of a slowly resolving pneumonia, a recent severe attack of whooping-cough or measles, and others of etiologic importance. The development of indefinite symptoms following a history of any of these conditions should be regarded with grave suspicion. The initial occurrence of hemorrhage without readily assignable cause should furnish even in the absence of all clinical manifestations or physical

signs a strong, suggestive indication of the existence of an already active though limited focus of tubercular infection. Further, a pulmonary hemorrhage supervening in the course of other rational symptoms without physical evidences, should afford convincing testimony concerning the actual nature of the existing pulmonary process. The occasional dry but persistent unexplained cough, even unassociated with other rational symptoms should offer at least a clear indication for continued medical observation and repeated examinations. While the absence of an elevation of temperature constitutes no argument for the exclusion of the diagnosis of a tubercular deposit, its presence under certain conditions is assuredly an element of exceeding value. The characteristics of temperature of more especial significance and which can only be appreciated by repeated use of the thermometer at two or three-hour intervals in suspected cases, during a period of several weeks, are its regularity and atypical course, an average for the day slightly above normal, its usual though not invariable rise in the evening, and absence of corresponding systemic disturbance.

The thorough and painstaking examination of the chest immediately upon the development of suspicious symptoms, and its frequent repetition, if necessary, will usually suffice through the detailed application of the principles of auscultation and percussion in establishing for clinical purposes a sufficiently early diagnosis. As a matter of fact, such an examination is seldom made until a provisional diagnosis has become apparent from the rational symptoms, and the consultant at once recognizes physical evidences of advanced infection. Is it not, then, of practical importance, prefatory to a consideration of the more recent aids to the recognition of consumption, to continue to emphasize a more strict and conscientious adherence to the principles of physical diagnosis, now ignored in so many instances? Apropos of this I would especially condemn:

1. Delay in instituting any physical examination whatever until long after the development of pronounced constitutional and pulmonary impairment.

2. Failure to examine upon the bare skin, the presence of clothing effectually preventing any approach to accurate results.

3. Neglect to examine the entire chest, the bases, interscapular spaces, and axillary regions being frequently overlooked.

I would deplore particularly the existence of:

1. Erroneous conceptions concerning the significance of the absence of percussion-dulness at the apices, an active process often being capable of recognition by auscultation considerably before the evidence of consolidation are apparent.

2. The non-recognition, in the absence of râles, of the various modifications in disease of the normal respiratory sounds.

3. Inaccurate interpretation of localized diminished intensity of auscultatory sounds, elevation of pitch, harshness of quality and prolongation of expiration.

I would severely criticize:

1. Failure to utilize cough preceding forced inspiration in eliciting the presence of slight moisture in the finer tubes.

2. The non-appreciation of the almost pathognomonic significance of a circumscribed bronchiolitis, even in the absence of dulness or other auscultatory signs.

SOME SURGICAL ASPECTS OF SYPHILIS.[1]

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(Concluded from page 397)

In the Joints.—It is a peculiar fact that though all other manifestations of syphilis are well studied the joint lesions seem to be much overlooked. The surgeon probably comes in contact with these cases more frequently than the syphilographer, and much of the advance in this work has been due to the surgeons. It is scarcely possible to think that the acute and multiple synovitis occurring during the primary eruption and with slight fever can be mistaken by any one for acute rheumatism, yet such has been the case. The acuteness of the onset, the multiplicity of the joint inflammation suggest an infectious disease, the exact course of which should be found if suspected. The joint inflammations following the exanthemata, the multiple epiphyseal osteomyelites, gonorrheæ and large intra-articular hematomata, are not infrequently thus confounded with syphilis and *vice versa*. The difficulty in ascribing the true cause is more frequently due to imperfect history on the part of the patient and neglect on the part of the surgeon than it is to an actual difficulty in finding the cause. A differential diagnosis between this type of syphilis and the gonorrheal can only be thought of in the rarer cases of gonorrheal synovitis which are multiple and have the character of the swollen synovitis and peri-articular edema. In the pure gonorrheal synovitis without a mixed infection the synovitis is not attended by formation of pus and an edema in the surrounding tissues does not exist. Large intra articular hematomata, owing to the absorption of the serum of the blood, give rise to fever and multiple joint inflammation, but other-

[1] Read at a Stated Meeting of the New York Academy of Medicine, held March 16, 1899, in a discussion on syphilis.

wise to no symptoms. So also in many of the exanthemata multiple lesions may occur within the joints which give no other symptoms than those of swelling, very slight edema, and some slight fever. The subacute or chronic serous synovites occurring during the later stages of the acquired variety are histologically at first serous synovites and later become papillary synovites with at times defects in the cartilages of the joints. They occur generally without injury, are more or less painful and the fluid in the joint is generally abundant. Anchylosis is not present, but fremitus is induced within the joint due to the papillary synovitis and the defects in the cartilage. This variety requires to be distinguished from the tubercular hydrops, monarticular arthritis deformans and monarticular chronic rheumatic arthritis. In the former cases the subacute course as compared with the chronic, the want of local symptoms in tuberculosis as against syphilitic joints, the presence of the fluid in syphilis, as against the variability of fluid in the hydrops of tuberculosis, and the history and a careful examination will always allow one to arrive at a distinct diagnosis. In the monarticular arthritis deformans injury to the joint is a most distinctive symptom. The injury produces a compression fracture of the heads of the bones, and is frequently seen in the ankle and knee from injury received by falling from great heights and landing upon the feet The deformities in the articular plates, the deformities in the joint itself, and the foreign bodies present are sufficient when they exist to class the case as one of monarticular arthritis deformans. In the monarticular rheumatic arthritis the want of hydrops and a tendency to anchylosis are characteristic symptoms. The main striking point, however, in all these cases is the rapid response to antisyphilitic treatment, while the disease itself withstands all other kinds of treatment. In an uncertain case this is the very best diagnostic means

The third variety is one in which a gumma situated beyond the synovial membrane in the tissues of the capsule by extension to the joint gives rise to a serous or papillary synovitis. If the gumma extends into the joint a gummatous synovitis or arthritis is induced. This variety is comparatively easy of diagnosis since the presence of the gumma, of the ulcers, or the scars from other adjacent gummata without other manifestations of syphilis being present are generally sufficient to lead one to the diagnosis of a secondary joint involvement.

The fourth variety of acquired syphilis is a gradual involvement of the joint, secondary to a periostitis, or an osteomyelitis, and running the same course as the preceding variety. Its diagnosis usually depends upon the diagnosis of the bone lesion.

It often happens in the acquired variety that the diagnosis is dependent upon the previous or present manifestations of the disease and the multiplicity of the joint lesion, but one may be obliged to work without any of these aids, other than the joint lesion. It is especially so in the hereditary variety of syphilis and too much importance cannot be given to it, owing to the imperfect results obtained in the treatment of tubercular joints in children, and to the fact that many syphilitic joints are considered tubercular. We should not increase this number by including the syphilitic joints and we should select from the other the syphilitic joint diseases, for no disease does better under appropriate treatment.

These are more common than is generally supposed, thirty-seven per cent. of children having keratitis in hereditary syphilis have joint disease; eighty-eight per cent. occur in the knee-joint, and fifty-nine per cent. of them are double, existing upon both sides. Histologically, we have in the first variety a primary serous synovitis with or without cartilage defects. In the second, third, and fourth varieties we have a serous papillary or a gummatous synovitis. In the second, due to a periarticular gummata; in the third to a periostitis and osteomyelitis; and in the fourth to an osteochondritis with or without perforation into the joint or separation of the epiphysis.

The first variety, the serosynovitis with or without cartilage defects, is generally double and in the knee joints. These subacute cases are quickly suspected even though no manifestation of syphilis is present. Such a case I remember in a child of four years of age, otherwise healthy, with a double gonitis, subacute in character and but slightly painful. There was some local heat, but no contracture in the joint nor redness over the joint. At the time of observation the disease had been present twenty-one days at the least. Inunction of mercury and internal administration of the iodid of potash brought about a successful result within two weeks. This case I knew to be syphilitic, for the mother had been treated in the hospital for the same disease, and it was present at the time of the presentation of the child, and she was examined and found to have a well-marked syphilitic gumma of the cheek.

When the latter three varieties occur in late childhood, they may be easily mistaken for white swelling when they have reached the gummatous period. In the earlier stages when the exudation into the joint is serous or the synovial membrane is papillary and a peri-articular gumma, a periostitis, an osteomyelitis or an osteochondritis is present the distinction even when the joint lesion is unilateral is much

easier. Bilateral involvement in the knee, elbow, and ankle joints are especially suspicious. These joints are, moreover, characterized by greater mobility and a more pronounced pain and swelling of the ends of the bones, than exist in tuberculosis. In comparison with the acute articular or the gonorrheal rheumatism syphilis shows a decided absence of pain in rest and a more pronounced swelling. It must not be forgotten that in hereditary syphilis pains exist within the joints without observable reaction (an arthralgia). These pains resemble growing pains, and are often so classed, or are considered rheumatic. No hereditary lesion exists and the cause is not explained.

Bones.—Both in the acquired and in the hereditary variety of syphilis, the bones are primarily affected and it is probable that we meet the hereditary varieties mostly between the ages of five and ten years; they may, however, occur as late as the twenty-eighth year.

It is not with the more frequent varieties of bone syphilis, *i.e.*, gummatous periostitis or osteomyelitis that the surgeon finds his difficulty, for here multiplicity of the lesions, the part of the bone involved and its mode of involvement are generally sufficient, even when other manifestations are not present, to distinguish the process as being syphilitic. It is, however, in the first place with the exostosis, the hyperostosis and the osteophytes, especially in the hereditary syphilis, that the surgeon has to do, since their pressure upon the muscles, nerves, and organs may lead to severe symptoms which, when the disease is distinctly understood, may be easily relieved

Particularly interesting are the three cases of exostosis occurring during the first week of extra-uterine life reported by Labré. The first case was one of asymmetrical exostoses upon the upper epiphyseal line of both femora. The autopsy showed syphilitic disease on the epiphyseal line. In the second case an exostosis existed upon the lower end of the humerus which disappeared under the use of blue ointment and iodid of potash. In the other case an exostosis upon the trochanter major suddenly disappeared with the disappearance of a periostitis of the ulna under blue ointment and the iodid of potash. Labré therefore concludes thas a certain number of exostoses are syphilitic, and the diagnosis depends upon the age of the child at which the exostosis of syphilis takes place, as well to the fact that the treatment under blue ointment and iodid is curative. Fournier has lately described a case of exostosis of hereditary syphilis causing a most painful contracture of the forearm, which exostosis was discovered by means of the Roentgen-rays and was cured under proper treatment. He also describes a case of acquired syphilis in a man of sixty years, whose primary lesion was obtained two and a half years previous and which was followed by severe amyotrophic joint affections: multiple exostoses upon the metatarsus, tibia, fibula, radius, and frontal bone. These exostoses diminished under proper treatment. Again, the hyperostoses of syphilis are responsible for deformities in the articulations adjoining the disease, and for this reason care should be taken to observe them. Such deformities as are seen particularly in the ankle joint, where from tibular hyperostoses pes valgus may result.

The rapidly developing gummata of the skull and long bones are not infrequently confounded with tuberculosis or sarcoma. In making such a distinction in the skull or in the long bones, it is to be remembered that the osteomyelitis of syphilis is usually gummatous, and that the periostitis is usually a sclerosing process, and that in the acquired disease the diaphysis is involved. In the hereditary and early acquired syphilis the epiphyses are involved. This holds good in the long bones, whereas in the flat bones the process is more frequently a gummatous than a sclerosing one. In the differentiation of these three almost similar processes syphilis of the bone is characterized by its painfulness and its exquisitely chronic course. In the acute osteomyelitis, we have the location in the bone, the acute beginning and the high fever, the intoxication and the early development of pus. In the sarcoma its location near the epiphysis, its more rapid growth, its early involvement of the skin and its larger mass. In tuberculosis the location in the bone, the slight pain and the very chronic course, its cold abscess, and the large sinuses resulting are characteristic.

We find many mistakes made in diagnosis and some in the removal of syphilitic gumma for neoplasms. Such a mistake has occurred to Langenbeck in the case of a man, twenty-five years of age, who denied all previous syphilis. He was sent to Langenbeck with a diagnosis of lipoma of the shoulder. The tumor developed after a blow five months previous to Langenbeck's seeing him. This tumor had increased with severe pain and existed on the posterior surface of the right scapula. It was a sharply defined tumor; it followed the movements of the scapula and was not attached to the skin. The surface of the tumor seemed lobular. The skin over the surface had an ulcer with undermined edges and a base formed of necrotic fascia. Suspecting that the tumor was not a sloughing lipoma, but syphilis under the appropriate treatment he effected a cure.

It is probable that the subject reported as being

operated upon by Carl Reyher of St. Petersburg, in Langenbeck's *Archives* of 1897, vol. xxxvii, had a gumma of the shoulder. He removed a tumor from the shoulder of a man, fifty-three years of age, the microscopic diagnosis of which was fibrosarcoma. Within three months a local return took place in the scar. On the elbow and shoulder and deltoid muscle old syphilitic scars were found The tumor involved both the acromial end of the scapula near the acromioclavicular joint and the clavicle. The humerus was not involved. The diagnosis was sarcoma and syphilis. The shoulder was removed, together with the arm, by Von Bergmann according to Berger's method. The patient recovered and returned to his work and after two-years' time died. The autopsy showed the existence of visceral syphilis, and it is very probable that the shoulder was removed for a gumma instead of a sarcoma.

Again, so eminent a surgeon as Kuster has removed a gumma of the sternum for a sarcoma, and the error was justifiable since the iodid of potash did not act so promptly as is usually the case.

Such a case I had myself at the New York Hospital some three years ago. The man was admitted having had a portion of the sternum removed for sarcoma involving the upper third of the sternum and the sternoclavicular articulations. The man was sent to the hospital with a diagnosis of a return of the sarcoma. Careful examination of his history as well as the character of the local disease in the sternum soon convinced one of the possibility of syphilis. Proper treatment cured.

With the rarer variety of syphilitic involvement of the spine consisting (1) in ex- or hyperostosis in the cervical, dorsal, and lumbar regions, which may induce pressure upon the cord or the nerves and give rise to symptoms; (2) in an osteomyelitis with necrosis, which is a very rare condition. As a rule this osteomyelitis of the spine is tubercular or both syphilitic and tubercular.

With the development of gummata in bone fractures may occur from very slight injuries. In the acquired varieties these fractures occur usually in the diaphyses, whereas in the hereditary variety they consist in the separation of the epiphysis trom the diaphysis induced by a gummatous osteochondritis in the first years of life and give rise to a condition known as Parrot's pseudo-paralysis.

In the Rectum.—Syphilis is frequently located and has been not infrequently removed under the head of cancer. Carcinoma, which exhibits an irregular, hard, and nodular growth with deep, gaping ulcerations upon the hard and indurated rectal wall, can be easily mistaken for chronic inflammation and ulcers, and these two for syphilitic stricture and ulcers or an anorectal syphiloma.

Rectal disease may be subjected to the microscope and if only small-celled infiltrations are present and granulation tissue, one naturally thinks of syphilis although the history and examination of the whole body reveals nothing. This negative diagnosis, however, is of little value unless we substantiate it by other general symptoms or by a characteristically diseased rectum.

Were we able to see the cases early diagnosis would often be an easy matter, but this is not the case and we cannot see the most characteristic manifestations in the rectum, *viz.*: the small gummata of the mucous membrane. It is characteristic of syphilis of the rectum to have the ring-like strictures close above the internal sphincter, above which, according to the age of the process, we find ulcerations, circular, with clearly cut indurated edges, not undermined, existing singly or occurring in groups, or we find above this stricture gummata globular, elastic, cellular deposits situated in the submucous tissue and existing singly or in multiple form. These gummata not infrequently undergo fatty degeneration and are replaced by a fibrous mass, which not infrequently when several exist is mistaken for carcinoma. Again, syphilis of the rectum may exist under the form of anorectal syphiloma of Fournier, which process as you are aware consists in a fibrous hyperplasia of the mucous membrane without ulcers unless it be secondary to it. This leads to a stricture which extends rarely higher than 2½ inches from the anus. Sooner or later either in the hereditary or in the acquired variety of syphilis the rectal wall above the stricture is studded with papillomata or adenomata. The microscope here may show nothing for or against syphilis even when it exists. Macroscopically above the stricture and the papillomata the ulcers and the gummata along the extreme edge of the advancing syphilis alone afford us the diagnostic evidence of syphilis. Microscopically the most evident lesions are obtained above the stricture and the ulcerated gummata. Here the mucous membrane is completely transformed into a granulation tissue composed in part of leucocytes and in part of epithelioid cells with large spaces between them (blood spaces without walls). In the submucous tissue gummata are found which consist of granulation tissue, perivascular and endovascular, similar to that found in angiosarcomata. So also in the gummata which present themselves as nodules, the formation from vessels is the same, so that in both cases the cells in the tissue stand in close relation to the walls of the vessels. Of the greatest diagnostic value, therefore, is the hard, bluish-red no-

dule in the mucous membrane which consists of this network of capillaries and small veins, the walls of which are in a state of proliferation producing epithelioid spindle and round cells. Following this disease in the mucous membrane the submucous and the intermuscular gummata appear, and owing to the necrobiosis of their tissue lead to the serpiginous ulceration when superficial, and when deep to strictures and contracture.

With reference to a distinction between syphilis and many other affections which simulate it, it appears to me to be useless to arrange in columns as in our text-books the striking differential points, for it is not where these differences can be recognized that our errors exist, but rather in the cases where this fails and where we are to judge largely from a few facts which render the diagnosis probable rather than certain. In this category of suspected and doubtful cases are placed those in whom (either child or adult) the manifestations of a recent or remote infection exist (acquired), or the evidence of a family taint is well founded (hereditary). Equally suspicious are the so-called tumors of muscle, since syphiloma of muscle is more frequently met than other tumors in this tissue. In Esmarch's experience it amounted to more than one-half of all primary tumors in the muscular system. We must class as doubtful all cases appearing to be sarcomata, recurring rapidly after removal (Paget's rapidly recurring fibroids). Many of the cases so classed have been proven to be syphilitic and have been cured by antisyphilitic treatment, although the pathologic examination has been that of a angiofibroma. Just such a case came under my observation in 1898. The patient was sent to me by Dr. J. P. McGowan of this city for the correction of a deformity in the upper lip the result of contracture during the dissipation of a gumma by internal treatment. The gumma had been an extensive one, and the connective tissue remaining had formed a mass the size of the thumb. The skin over the mass was not involved. It was adherent to the superior maxilla, and was to the touch hard and easily circumscribed. It had remained in this condition for two months, and at the time seemed to be stationary. This mass was removed, the deformity was corrected by a slight plastic operation, and the patient kept under internal medication. Pathologic diagnosis: Fibrosarcoma. This diagnosis could not be believed in since the evidence of former syphilis was present, nor have we up to the present time any reason for changing our diagnosis of a fibroid degeneration of a syphiloma of the muscles of the lip.

Another class of suspicious cases are those which have been cured by erysipelas; in both lupus and the severe syphilides the toxins of erysipelas apparently act antagonistically and render nil their respective toxins. It is indeed probable that the cures obtained in the treatment of sarcomata by the injection of the toxins of the erysipelas streptococcus and the bacillus prodigiosus may be explained in this manner. Such conditions existing in a case can only be considered suspicious, yet such a suspicion should be noted and acted upon since in not a few syphilitics a careful examination made to substantiate the diagnosis is fruitless. There are no characteristically colored scars. No exanthemata, no ulcerating syphilides, no gummatous swellings, thickening in the bones, nor can there be discovered the remains of an iritis. One is left with scarcely anything but the suspicion, and it must be acted upon with the idea of proving the case by histological examination and the antisyphilitic treatment.

In the syphilomata the method of growth has but little diagnostic value. Some grow rapidly, especially where they have been injured, which fact has been repeatedly observed by surgeons who have operated to correct deformities resulting from syphilis, while a latent but active syphilis was still present. Others grow more slowly until they break down and give the characteristic ulcer. Nor has the consistence of the syphilomata much diagnostic value since they may be either hard or soft owing to the amount of cellular constituents as compared with the purely fibrous. Some, moreover, when made up of a single gumma are smooth to the touch, while those consisting of an aggregation of smaller gumma are nodular.

Our anatomic diagnosis is then in many cases a most difficult one, and in some is impossible. Our microscopical diagnosis should be based upon a growth showing a grayish-red granulation tissue with several yellowish foci of fatty degeneration. Our microscopical diagnosis cannot always be relied upon, for although one may find a granulation tissue with foci of fatty cells, and an obliterating endarteritis or a granulation tissue with many vascular spaces and a peri- and endovascular proliferation of cells, yet it will often be impossible to say without a history of treatment—that it is not a fibro- or angiosarcoma. In the more or less diffuse infiltrations or in the fibroid degeneration where the interspersed gummata of the first or the fibroid masses of the second break down and result in ulcers with indurated borders and sloughy and fungous bases, it is difficult to decide macroscopically as to their cancerous or syphilitic nature with positiveness. Even with the microscope many sections must be examined in order to eliminate this same uncertainty. So

great is this danger and so easily have mistakes been made that Hutchinson, Brandes, Esmarch, Langenbeck, and others have given full accounts of their mistakes as a warning and an aid to others. In the cases presented to the surgeon the manifestations of syphilis play a most important rôle, and the closest scrutiny should be constantly exercised in order that it may be recognized at the earliest moment, and an immediate and appropriate medicinal treatment be instituted. It is only in this way that operative measures can be avoided or at least limited to their proper sphere.

Owing to the time allowed I have been obliged to omit any mention of the involvement of the sheaths of tendons or the bursæ.

CLINICAL MEMORANDA.

WOUND OF THE URINARY TRACT DURING AN OPERATION FOR ACUTE APPENDICITIS; SPONTANEOUS CLOSURE OF THE URINARY FISTULA; RECOVERY.[1]

BY CHARLES A. POWERS, M.D.,
OF DENVER, COL.

ON September 29, 1897, I was asked by Dr. A. A. Clough of Denver to see W. D., eighteen years of age, whose history, briefly, was as follow: Six months before he had had an acute attack of appendicitis which lasted three days. Local pain of a "grumbling" character, constipation and general indisposition followed. These had been fairly constant ever since.

The present attack began at noon on September 22d, with sharp pain in the umbilical region, vomiting, and fever. The bowels were freely moved by salines. On the following day, September 23d, his temperature was 104° F., his pulse 112, and the entire abdomen was tender and painful. The symptoms gradually subsided. On September 25th his temperature and pulse were normal, while the pain and local tenderness had almost completely disappeared. On September 27th the patient was out and about although he felt a bit ill. On the 28th the pain reappeared and he vomited profusely several times.

I saw him in consultation with Dr. Clough at 5 P.M. on September 29th, seven days after the onset of the attack. At this time his temperature was 101° F., and his pulse 100. There was moderate tenderness in the right iliac fossa on deep pressure. The abdomen was flat and not rigid. There was an elongated, rather tender mass the size of one's thumb at the outer border of the right rectus muscle below a line drawn between the anterior superior spine and the umbilicus. The bowels were well moved by repeated rectal injections. The following morning, September 30th, his temperature was 100° F., and pulse 108. The local tenderness had somewhat increased.

Operation was performed at St. Luke's Hospital at 11 A.M. with the assistance of Dr. Clough, Dr. J. M. Perkins and the members of the house staff. Ether was the anesthetic used. The ordinary incision was made at the outer border of the rectus muscle, and the general peritoneal cavity entered and carefully and thoroughly walled off. The cecum was recognized with some difficulty. The tumor felt through the abdominal wall was a hard mass of inflamed omentum and small intestine densely bound together by old, firm adhesions. In the depths of this the appendix was afterward found. With some difficulty the base of the cecum was turned up and the end of an enlarged and inflamed appendix discovered. This was slowly traced through old, dense adhesions downward into the pelvis. The small intestines were bound together in a mass by firm adhesions, and it was with great difficulty that the finger found its way along the appendix downward into the pelvis where it could be hooked around the tip of the appendix, and the latter liberated and worked up into a free position. As the finger brought it up out of the pelvis, between the adherent loops of the small intestines, a gush of straw-colored fluid (two ounces or more in amount) followed, and the same fluid welled up throughout the operation. A small quantity of this fluid was collected and found to contain urea.

The general cavity was further protected and the appendix, which was four inches long, friable, and gangrenous at three points, was quickly excised. An attempt was made to locate the source of the urine through the opening between the small intestines through which it welled up, but this was not successful. As has been said, the adhesions binding the intestines were very firm and dense, and it was thought unwise to persist in the effort. A catheter introduced through the urethra drew off a moderate amount of urine which was not bloody. A measured amount of fluid injected into the bladder came back in practically the amount introduced.

The operation-wound was well packed and an incision made in the median line just above the pubes. Through this the bladder was hastily examined. No wound was found. It was not possible to examine the right ureter because of the densely adherent intestines. The median incision was closed, except at the lower angle, where a small strip of gauze was introduced behind the bladder. The operative field on the right side was well washed and a glass drain introduced into the pelvis through the opening through which the appendix had been withdrawn. Another glass drain was placed at the upper angle of the wound at the inner side of the cecum and the remainder of the wound thoroughly packed with three-per-cent. iodoform gauze. Time of operation 2½ hours.

The patient's condition at the close was fairly good. He was placed in bed on his right side with the head of the bed elevated about two feet. The first forty-eight hours were stormy. He was very restless and in much pain. There was a profuse discharge of urine through the wound. That passed by the urethra amounted to about twenty ounces daily. At no time was it bloody. After

[1] Read at a meeting of the American Surgical Association, at Chicago, Ill., May 31, and June 1 and 2, 1899.

the end of forty-eight hours the bowels had been well moved and the amount of urine coming through the wound began to diminish. On the fifth day the urinary fistula seemed to be closed. The tubes and gauze were gradually withdrawn and the patient made a complete recovery, the wound being firmly healed at the end of six weeks. He has since remained entirely well.

A thorough search through literature, in which I have had the kind assistance of Dr. Edward Preble of New York, fails to show record of a case similar to the foregoing, and I feel it but just to publish the account as a warning of what may happen under similar circumstances. It seems probable that the urinary wound was of the ureter. It is quite possible that the appendix was adherent to it and that opposite a gangrenous patch in the appendix contiguous ulceration of the ureter had taken place. The ureter was not torn entirely across or such prompt cessation of the urinary flow would not have occurred. I cannot reproach myself with undue haste or roughness in digging the appendix out, and I can but think it wise that prolonged search was not made for the urinary opening.

At last year's meeting of this Association both Keen and Fowler presented interesting histories of cases in which the appendix had become adherent to the bladder, perforation having taken place. I regret my inability to find further literature bearing on the subject.

SUGGESTION AS A MEANS OF PRODUCING SLEEP IN THE CASE OF A PATIENT SAID TO BE INSANE.

By J. M. F. GIBBONS, M.D.,
of Scranton, Pa.

On Saturday, August 5, 1899, I was asked to see Mrs. B., who was suffering from acute melancholia, and treatment for such was advised. When I called on the following Wednesday she had not slept for three nights, notwithstanding she had been given 40 grains of sulfonal during that time. On the previous night she had endeavored to secure laudanum, obviously for suicidal purposes, but her son, realizing the danger, reported this to his father, and the patient was watched much more closely until I saw her on Wednesday.

At that time the boy was sent for a 2-ounce mixture of burnt sugar, alcohol, and water in proportions to render the most artistic effect, and this was labeled "laudanum" and "poison," and profusely decorated with cross-bones, etc. Until his arrival my visit was devoted to interviewing the patient's family, from which I learned that it was beyond their power to induce her to lie down, that she paced the floor night and day, and that aside from the sulfonal no medicine had been administered successfully.

The boy returned and gave the bottle to his mother, and then busied himself about the room according to instructions in order to observe the results of the experiment. The patient took the bottle and sent the boy into an adjoining room. A few minutes later the lad returned to me with the empty bottle. When twenty minutes had passed I entered the parlor and found her rapidly walking back and forth, much like a caged animal, and every action as well as her general expression gave evidence of the guilt she felt. When carefully questioned she reluctantly admitted that her effort to obtain laudanum had been successful. Feigning alarm, I told her that a few drops of the drug had frequently put a person in a deep sleep from which he never awoke. Questioned again, she admitted she had taken the entire contents of the bottle. She was cautioned with a semblance of excitement that if she were to lie down even for a moment she would go to sleep and die, and that her only hope for life rested in keeping awake by walking up and down constantly, just as she was doing at that time. Desperate in her determination to end her life, she went to her room, almost as I turned my back, and was found there half an hour later enjoying the first sleep she had had for hours.

Later in the week I called Drs. Frey and Reedy in consultation, with the result that the patient was removed to the Hillside Hospital. Of course there were other evidences of insanity in addition to those related.

MEDICAL PROGRESS.

A New Form of Hip-rest.—Braatz (*Centralbl. für Chir.*, August 5, 1899) describes a new form of hip-rest which is both convenient for the surgeon and is built on correct anatomical principles, so that the pressure upon the sacrum shall be distributed in the best manner. Besides the usual foot-piece and vertical support, there is a flat top almost exactly the shape of the "wish-bone" of a chicken, the point of which attached to the vertical support is directed toward the feet of the patient. The two legs of the "Y" extend upward, one on either side of the sacrum, so that the weight of the body is supported by the thick gluteal muscles and not by the sacral bones. The author has used this form of hip-rest for a number of years, and has found it in every way satisfactory.

The Spread of Contagious Diseases in Children.—Vollmar (*Berliner Klin. Woch.*, August 21, 1899) has made an exhaustive study of the above-mentioned subject, and comes to the conclusion that schools are responsible in large measure for the spread of contagious disease. While admitting that this can never be entirely overcome, he still emphasizes the importance of more careful measures in order to limit the spread of contagion as far as possible. Such measures should be in the hands of special sanitary officers. Before a child is allowed to return to school, after recovery from a contagious disease, its person and all of its clothing should be thoroughly disinfected. The schoolrooms should be disinfected at least twice a year, and the floor of the classrooms and corridors should be disinfected every week. It is the duty of physicians and parents to see that the measures determined upon for the prevention of contagion are conscientiously carried out. Parents, teachers, and children ought to be informed of the ways by which contagious disease spreads, and of the most practical means of prevention. All schools should be regularly visited by physicians.

Total Extirpation of the Internal Saphenous Vein.—CASSITI (*Centralbl. für Chir.*, July 22, 1899) extirpates the internal saphenous vein from its termination in the crural to a point well below the knee. He has obtained excellent results in cases of varicose ulceration and varicose veins. In order to avoid making a very long incision in the skin, he proceeds as follows: An incision of 4 cm. (1½ inches) long is made over the vein about 8 cm. (3 inches) below the groin. The vein is isolated and divided between two clamps as high up as possible. It is freed as low down as possible, and if firmly drawn upon it may be divided and tied considerably below the point of incision. Another cut of equal length is made just above the knee, and through this in a similar manner the vein is liberated above and below and drawn out through the wound. Two similar incisions made below the knee suffice to complete the removal of the whole vein. It is not necessary to ligate its branches. By this method a bandage in the groin and a scar at the flexure of the knee are both avoided, and through incisions aggregating only 16 cm. (7 inches), 80 cm. (32 inches) of vein can be removed.

Resection of the Liver for Neoplasm.—KEEN (*Annals of Surgery*, September, 1899) has collected and analyzed reports of 76 cases of resection of the liver for hepatic growths. The termination in the case of 2 patients was uncertain; of the remaining 74, 63 recovered, giving an operative mortality of 14.9 per cent. Shock, hemorrhage, and exhaustion caused death in 8 instances; septicemia in 2, and pulmonary embolism in 1. Four-fifths of the patients were females. This great disproportion in the sexes is attributed to the tight clothing worn by women. Echinococcus and hydatid cysts were found in 20 instances; carcinoma in 17; syphiloma in 2; adenoma in 7; sarcoma in 5, and rarer forms of new growth in single instances. The writer advocates an early exploratory celiotomy in every case. Until this is done one has very imperfect means of judging of the feasibility of the operation. Hemorrhage may be easily controlled by the cautery heated to a dull red, or, if necessary, by a few catgut sutures and temporary gauze packing. The question of recurrence cannot be intelligently discussed until a greater number of patients have been operated upon and their subsequent histories have been followed for a considerable time.

Simultaneous Disease of the Appendix and of the Pelvic Organs.—DUEHRSSEN (*Archiv für Klin. Chir.*, vol. 59, p. 921) systematically investigated 320 cases in which vaginal and abdominal celiotomy was performed in order to observe the condition of the appendix. In ten of the patients examined the appendix was found to be diseased, and in nine instances it was resected. The conclusion seems warranted that one may expect to find a diseased appendix in about three per cent. of cases of pelvic trouble requiring operation. This complication occurs especially under two circumstances, *viz.*, in inflammatory and particularly in suppurative disease of the adnexa, and in those instances in which there is a thick, short, right broad ligament. In the former class of patients the inflammation of the adnexa has led to peritonitis and inflammation of the appendix. In the latter the disease has extended through the parametrium and the appendicular-ovarian ligament to the mesentery of the appendix. In these cases a median abdominal incision with the patient in Trendelenburg's position is the most suitable one, even though the trouble seems wholly upon the right side.

Care of the Insane in Farm-Dwellings.—BLUMER (*Amer. Jour. of Insanity*, July, 1899) mentions the advantages which follow the care of the insane in farm-dwellings, a plan which has been put into practical operation in connection with the Utica State Hospital for some years. *A priori* it was argued that farmers would be too proud to board insane patients, but this has not proven to be the case, and the demand for insane boarders is constantly greater than the supply. Accidents are less frequent among the boarded-out insane than among a like number of patients in closed asylums. The thousand and one familiar things constantly going on around patients in families constitute a far greater source of enjoyment than the scenic entertainments of asylums. Economically the plan is a success, as the cost of the patient's maintenance is somewhat less on the farm and the value of their labor is far greater. Considered as a method of treatment, the plan is equally meritorious. This is not a new idea. A colony at Gheel, Belgium, is so old that its origin is surrounded by superstition, while in Scotland insane patients have been systematically boarded out on farms for half a century. The wonder rather is that it has not been more widely adopted in the United States. At least one-fourth and perhaps one-third of insane patients are adapted to this style of life.

The Importance of Local Treatment of Cystitis in Women.—SHOBER (*Jour. of Med. and Science*, August, 1899) emphasizes very positively the opinion that some form of local treatment is indicated in almost all cases of cystitis occurring in women. Even in the first stages of acute cystitis if the symptoms do not yield to constitutional measures in a very few days local treatment should be resorted to. The bladder should be carefully washed out with any one of the mild antiseptic solutions or with normal salt solution. A simple apparatus for this purpose is a pint jar with a rubber tube leading from an opening at the bottom, and connected with a two-way cock. After the urine has been carefully drawn, 1 to 4 ounces of the solution are allowed to flow into the bladder and then to flow out again. This washing should be repeated until the water comes away perfectly clear. Such treatment should be given from one to three times a day, according to circumstances, while the patient is kept constantly in bed upon a diet of the blandest character, with large quantities of diluent drinks. In more chronic cases attempts should be made to remove the cause by the repair of lacerations, correction of misplacements, removal of diseased tubes, calculi, etc. If the disease is localized in one or more areas in the bladder the latter should be emptied and the patient placed in the knee-chest or elevated dorsal position. The introduction of the endoscope

will allow the bladder to distend with air, and under these circumstances its entire surface can be inspected. Spots of local inflammation can then be treated by applications of a solution of nitrate of silver of from 5 to 20 grains to the ounce. As a last resort the surgeon is justified in establishing a vesicovaginal fistula in order to give the bladder complete rest. The patient is allowed to be about wearing a large pad of absorbent material. After a few months the mucous membrane of the bladder will be restored to a healthy condition and the fistula may be closed.

Surgical Relief of Cancer of the Stomach.—Guinard (*Rev. de Therap., Med., Chir.*, August 1, 1899) thus formulates the contraindications for resection for gastric cancer: The general state of the patient; the presence of visceral metastases or of large lymphatic metastases; immobility of the tumor from adhesions or because of its extension to the duodenum or esophagus. The conditions of operative success are given as follows: The avoidance before operations of all measures which can weaken the patient. Among these the author includes gastric lavage and purgatives. During the operation it is essential that the chloroform be administered in a perfect manner; that only healthy tissues be sutured, and these without tension; that the sutures be continuous in a spiral manner, and that all hemorrhage, even the slightest, be avoided. Rapid methods of operating are, therefore, superior to slow ones. After the operation the patient should receive nourishment by the mouth on the second, if not on the first, day. The patients are already feeble, and ought to quickly take some form of nourishment. Soup, chopped meat, peptones, and wine are suggested as suitable food. If vomiting recurs, the stomach should be washed out, the patient being in the recumbent position. The mortality of operation for gastric carcinoma at the present time has been reduced to about ten per cent. In doubtful cases exploratory laparotomy ought always to be performed.

Rectal Irrigation in Gynecology.—Hyde (*Amer. Gyn. and Obst. Jour.*, August, 1899) mentions a number of cases in which the value of rectal irrigation was strikingly exemplified. Prolonged douching lessens the normal vaginal acidity, a disadvantage which is obviated by rectal irrigation. It is also of value as a substitute for vaginal douches in young girls, although there are instances in which the vaginal douche is necessary for purposes of cleanliness. In acute and chronic ovarian and tubal lesions, except possibly pyosalpinx, this therapeutic measure has proved very satisfactory. In a case of intestinal paralysis with sepsis after operation repeated enemas and the free use of cathartics proved of no avail, and recovery was regarded as doubtful. Six gallons of water at a temperature of 115° F. were injected into the rectum. The intestines responded slightly after the second gallon, and strongly during the remainder of the injection. Large quantities of gas were evacuated, the patient became restless, and the pulse and temperature fell. Recovery was prompt. The dull aching pain and distress in the pelvis and slight tympanites which occasion so much discomfort after some pelvic operations may usually be relieved by rectal irrigation. Intestinal colic may be relieved in the same way. This measure was also tried in chronic constipation, but the results were doubtful.

THERAPEUTIC NOTES.

Treatment of Leucorrhea by Lactic Acid.—Sneguirev (*Journ. de Med. de Paris*, July 30, 1899), finding that the normal reaction of the vaginal mucus is acid and contains lactic acid, concluded that this substance plays a natural antiseptic rôle and prevents the development of various pathogenic microbes which find their way into the vagina. Consequently he determined to employ solutions of lactic acid to neutralize infectious bacteria. He found that douches containing three per cent. of lactic acid very quickly overcame the bad odor of the discharge, changed its color, and dried up the leucorrhea. Applications of lactic acid, either pure or in solution, made to the cervix or within the cavity of the uterus, caused an abundant desquamation of the epithelium and led to a cure of endometritis or endocervicitis with ectropion.

Treatment of Hyperchlorhydria.—This disease is generally caused by too much mental work (Einhorn "Twentieth Century Practice," vol. viii), therefore the patient's daily life as regards the amount of work, bodily exercise, mental rest, and pleasure must be regulated. In each case one must individualize. Cold sponge-baths in the morning for ten minutes before breakfast and exercise without over-exertion during the day must be prescribed. As to diet, all substances that are likely to intensely excite the glands of the stomach, *e.g.*, acids and spirits, must be excluded. The food should be rich in albumen. Starchy substances should be diminished. Whisky and wines should be avoided. Three large and two small meals should be taken daily. The two smaller meals should consist of a glass of milk, with bread and butter, or like fare. The food must be thoroughly and slowly masticated. A rest of at least fifteen minutes should be taken after each meal. In the way of medication, alkalies are indicated. From 3 ss to 3 i of bicarbonate of soda should be given three times a day two hours after meals, with the addition of magnesia and rhubarb when there is constipation.

This treatment can be continued for very long periods without any ill effects whatever. When the nervous element is pronounced (sleeplessness, headaches, over-excitability, etc.), one may make use of the following:

℞	Strontii bromidi	3 iij
	Aq. menth. pip.	3 xv.

M. Sig. Teaspoonful three times daily in milk at meal-times. This may be taken for a week or two, then discontinued for a short time, and again taken.

The use of electricity may be necessary. The faradic current is applied directly to the inside of the stomach. If the pain is great galvanization must be substituted.

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SATURDAY, SEPTEMBER 30, 1899.

THE NEW DISPENSARY LAW.

ON October the first, New York's new law for the suppression of dispensary abuses will go into effect. This legal enactment was the result of a vast amount of labor on the part of a goodly number of medical men; the law itself was drawn up with great care and represents the combined wisdom of many suggestions obtained after serious and sometimes heated discussion, in which the friction of advocacy and antagonism sometimes threatened to entirely consume the general interest in the measure itself. The unpleasantness is a thing of the past, dead, and let us hope buried without prospect of exhumation. The law is now to be enforced, and this will demand quite as willing cooperation among physicians as did its passage.

The abuses of medical dispensaries by patients, and doctors and managers alike, have been and still are most patent. The remedy so far as reasonable foresight avails lies in the provisions of the law and its wise and efficient administration. The evils that have been allowed to creep into our present dispensary system and become inveterate will not disappear of themselves; the enforcement of the law, in so far as regards the treatment of the poor at dispensaries, especially at first, should be judiciously applied and kept carefully free from the slightest degree of offensiveness.

The conference of representatives from various medical bodies who met at the suggestion of the State Board of Charities late in July of this year to discuss the methods of enforcement of the law made the following very practical and conservative suggestions: Every patient should be asked to sign a card stating that he or she is unable to pay for medical treatment; on the back of that card should be printed the section of the law making it a misdemeanor to receive medical treatment under false pretenses. All applicants should be treated at their first visit, but all cases should be promptly investigated by a central bureau as to the ability of the applicant to pay. No employe of the National, State, or City Government is to be considered a fit subject for medical charity unless he be a laborer, and not then if he have no one dependent on him. These suggestions are eminently fitted as far as they go to accomplish the exclusion of those not deserving of charity. The method, too, would take out of the doctor's hands the odium of enforcement of the law in the clinic itself.

The efficacy of the law, so far as the protection of the dispensary against those who are competent to pay is concerned, rests entirely upon the genuineness of the investigation. There is danger that this may prove only perfunctory and utterly fail of its purpose. There have been complaints of just this nature during the last few months in England. In London an attempt has been made to regulate the dispensary evil by distributing the general hospital charity fund only to those dispensaries which investigate the pecuniary status of their patients, so that the money presumably given to charity may not be diverted into unworthy channels. The reported investigations have, however, in some cases been evidently made with so little care that their object has been entirely defeated. The English medical journals have taken up the matter and a reform is demanded. We are liable to have just such a state of affairs develop unless the investigation is made a matter of serious moment from the very beginning.

THE ETIOLOGY OF YELLOW FEVER.

Considering the increased interest yellow fever has for us here in the United States since the acquirement of islands in the West Indies in which it has been endemic for a century, and from which most of the yellow fever that has at any time ravaged the American continent has come, we have been especially gratified to be able to present to our readers during the summer, the very latest details on the subject of its etiology from the best known original workers in the special department of bacteriology. Sanarelli, Sternberg, Wasdin and Geddings, Reed and Carroll, Novy, and Vitale are all men who have the right to be heard on the subject. How difficult the problem of the etiology of yellow fever is may be judged from the fact that at the end of the controversy the question cannot be said to be definitely settled.

Dr. Sternberg deprecates as preposterous the idea of a personal element in his non-acceptance of the specificity of Sanarelli's bacillus icteroides. His eminent attainments as a bacteriologist and his high personal character preclude the entertainment seriously of the idea by those who know him. Drs. Reed and Carroll have been able not only to impugn any aspersions on the accuracy of their laboratory work, but have made a distinct contribution to the subject of yellow fever and of intestinal affections generally in their review of the literature of acute fatty degeneration of the internal organs under the influence of various toxins, vegetable as well as bacterial. Of much more than passing interest is the fact brought out in their article that a number of bacteria that produce lesions of the intestinal tract in man and animals, the typhoid bacillus, bacillus choleræ suis and bacillus icteroides, bear certain striking relations to one another and to that normal inhabitant of the intestines the bacillus coli communis. This is not new but it becomes even more striking than before. The question of the possible polymorphism of bacilli, their existence under several forms with distinct properties in each, is becoming more insistent. It is clear that the further discussion of the etiology of yellow fever will be of value if for no other reason than the light it may throw upon this important problem.

Dr. Novy succeeds in maintaining his position that the failure of the bacillus icteroides to perish under the influence of cold certainly stamps with suspicion its etiological relations to yellow fever. Cold does not affect most micro-organisms but it does destroy at least one, the gonococcus, and medical history of epidemics seems at least not to disprove that the microbic cause of yellow fever is affected in the same manner.

The recent confirmation of Sanarelli's claims by the Marine Hospital workers in Cuba comes in the midst of the discussion and greatly adds to the probability of the etiological relation of the bacillus icteroids to yellow fever. Even yet, however, the question seems an open one. It is probable that we will have the opportunity to present to our readers before long a further contribution from Professor Sanarelli himself in which the recent discussion will be summed up and the work done on the subject this summer reviewed. With the present danger from the disease and the opportunities for study that the present epidemic affords we can only hope that interest will be aroused and the significance of points at present under discussion so thoroughly investigated that the important question will reach a definite issue before many months have passed.

PREDISPOSING CAUSES OF PULMONARY TUBERCULOSIS.

The medical profession generally has given up the idea, once so universal, that the development of pulmonary consumption, unless in exceptional cases, is connected with "catching cold." There is no doubt, however, that more cases of the disease come under observation in the fall than at any other time of the year. It is especially at this time, then, that hints as to the early diagnosis of the disease and as to conditions that predispose to it are of value. They serve the very beneficent purpose of anticipating the ravages of the disease before the condition becomes irreparable, and make very early treatment possible.

Two things worthy of note with regard to the predisposing causes have been prominently brought forward of late. Our London correspondent, in his letter published in the issue of August 26, 1899, called attention to the importance which was given at the recent meeting of the British Medical Association to Birch Hirschfield's work on the starting-point of pulmonary tuberculosis. The distinguished

Leipzig pathologist, one of the great German patriarchs in the science, found after careful investigation that in a large percentage of thirty cases of incipient tuberculosis in which the patients died from other causes the initial lesion of the disease was at one of the bifurcations of a particular bronchus supplying the posterior part of the apical lobe. He believes it to be a stagnation infection, and that the movement of air in this portion of the lung is not sufficient to remove bacilli should they prove to be in the air when originally inspired.

The prophylactic suggestion of the probable value of breathing exercises lies near at hand under these circumstances. It has often been noted that those most liable to consumption are shallow breathers, and the conviction has been growing that respiratory exercises for such people may be of the greatest service in warding off infection.

A second predisposing cause for pulmonary consumption is suggested by an article in the London *Lancet* for August 26, 1899. Dr. Byers reports a series of cases in which phthisis and Raynaud's disease were associated. There has always been more than a suspicion that individuals with a weakened peripheral circulation are more liable than others to pulmonary tuberculosis. The relations between skin diseases and lung troubles, as, for instance, asthma and psoriasis, have served to show that there is a close connection between the nerve- and blood-supply, probably between the vasomotor systems of the greater and lesser circulations. We have then in the disturbance of the peripheral circulation in Raynaud's and allied diseases the suggestion that the pulmonic circulation is similarly affected, and that a point of lowered resistance to the invasion of tubercle bacilli is thus offered especially at the periphery of the lesser circulation, as at the apices of the lungs.

The suggestion as to the connection between Raynaud's disease and phthisis is all the more important now that we know that the disease described by Raynaud is not a distinct entity, but only the severest stage of a series of circulatory troubles that may affect the ends of the limbs. Erythromelalgia, Weir Mitchell's disease, it is now about agreed, is a less advanced stage of the same disease, in which fingers and toes become only red and painful, not gangrenous. It is probable that very often the persistent tendency to cold hands and feet complained of by many people is a still milder form of the disease, but related to the severer ones and produced by like causes.

These considerations make obvious the necessity for careful inspection of the pulmonary condition of patients who come complaining of peripheral disturbances of circulation. Such care will undoubtedly sometimes lead to the detection of incipient tuberculosis at a time when it would not otherwise be suspected, at the most precious time as far as regards the success of treatment is concerned. These thoughts emphasize, too, the necessity for careful stimulation of the circulation in cases in which patients complain of circulatory troubles if the danger of infection with tuberculosis is to be avoided.

ECHOES AND NEWS.

Bacillus of Dysentery Discovered.—It was reported from Yokohoma, Japan, on September 18th that Dr. Kitasato has discovered the bacillus of dysentery and that he has already performed some remarkable cures by inoculation.

Death of Dr. Cusack.—Dr. Thomas G. Cusack died at Orange, New Jersey, on September 20th. He was graduated from the New York University Medical College in 1880 and was a member of the New Jersey Medical Society.

Successful Treatment for the Plague.—News comes from Paris on September 23d that the members of the French medical mission which was sent to Lisbon to investigate the bubonic plague announce that up to that date nobody inoculated with Yersin's antiplague serum had died.

Australasian Medical Congress.—The Intercolonial Medical Congress, composed of medical men from Australia and the neighboring islands in the South Seas that are under British dominion, or at least have English-speaking physicians, met at Brisbane from September 18th to 22d. The attendance was very large.

Compulsory Vaccination in Japan.—One of the latest signs of progress in Japan, and a very pertinent one it is, is the announcement that the Japanese government has decided to make vaccination compulsory in Japan, and that all children are to be vaccinated before they reach the age of ten months. They must be revaccinated when they are six and again when they are twelve years of age.

The First Automobile Ambulance.—It is announced that an automobile ambulance is being made for St. Vincent's Hospital, New York City. It will be propelled by electricity, and will be a model of its kind. Electric power, it is thought, will be more advantageous for propelling a vehicle for which it is essential to have a very steady mo-

tion. The large pneumatic tires will also contribute in no small degree to the comfort of the patients transferred by the vehicle.

Science and Diplomacy.—The visit of the French Science Association to Dover, England, which was noticed in the last issue of the MEDICAL NEWS, was returned on September 21st by Professor Michael Foster, President of the British Association, accompanied by the other officials and three hundred members. Boulogne was visited. The visitors were entertained at breakfast and in the afternoon were given a banquet in the Town Hall by the mayor and municipal officers.

Errata.—Through an error in the rendering of Dr. Vitale's manuscript into English for the last issue of the MEDICAL NEWS a portion of the second paragraph, first column, page 388, was made to read: "These observers noted in the case of three hogs . . . fed on *warm* cultures of bacillus icteroides." Instead of "warm" it should have read "bouillon." On page 389, second column, lines 17 and 18, the word "agar" should have been employed instead of "gelatin."

Inaugural Exercises at Jefferson Medical College.—On Monday evening, October 2d, Jefferson Medical College of Philadelphia will dedicate its new buildings and laboratories, which have just been completed and are ready for occupancy. Dr. Thomas Addis Emmet of New York, who is one of the oldest living graduates, having received his degree in the Class of 1850, will preside. The introductory address will be delivered by Dr. Phineas C. Conner of Cincinnati, O., who was graduated in the Class of 1861.

Antivenin for Snake-bites in India.—In view of the fact that the United States has a large body of soldiers now fighting in the Philippines where venomous serpents are not uncommon, a recent announcement from India is of more than passing interest. The British military authorities have become convinced of the value of Calmette's serum for the bites of poisonous snakes and have ordered the distribution of a supply of it to all the military hospitals in India. In certain parts of the French possessions in Africa it has been said to be most effective in preventing the evil results of snake-bite.

Treatment a la Brown-Sequard.—We learn from Joliet, Illinois, that I. F. Bush, a young man who had been pronounced insane and had been an inmate since last March of the Kankakee Insane Asylum, has been cured through treatment with lymph from the testicles of goats. It is Dr. Roberts, a Greene City, Missouri, physician, who is said to have discovered this lymph. Not to be behind Brown-Séquard, Dr. Roberts claims that his lymph will arrest senility. He has gone to Europe to lay the discovery before Professor Koch and others, with a view to having it used in European insane asylums.

Use of Saccharine Prohibited Abroad.—Germany has prohibited the use of saccharine for the production of beer, wine, etc. Other artificial sweetening substances are also interdicted. Belgium has prohibited the importation, manufacture or sale of saccharine except for medical purposes, and France also prohibits the use of these substances in food. In Great Britain saccharine must not be used in beer manufacture. In Spain, Portugal and Austro-Hungary similar laws are in force. As saccharine and similar substances are used very freely as adulterants in manufacturing in this country it is a little startling to note the general consensus of European countries in forbidding it.

Nomination of Officers of the New York County Medical Society.—At a stated meeting of the New York County Medical Society, held September 25th, the following were nominated as the officers of the Society for the following year: President, Dr. George B. Fowler; first vice-president, Dr. J. Clifton Edgar; second vice-president, Dr. C. N. Dowd; secretary, Dr. William E. Bullard; assistant-secretary, Dr. J. V. D. Young; treasurer, Dr. John P. Warren. Censors, Drs. Edward B. Bronson, Samuel O. Vander Poel, Henry C. Coe, H. Stearns, Eugene Fuller, Wendell C. Phillips. On the recommendation of the Comitia Minora nineteen new members were admitted to membership.

Officers of the Canadian Medical Association.—At its thirty-second annual meeting, held at Toronto, August 30 to September 1, 1899, this association elected the following officers for the ensuing year: President, R. W. Powell of Ottawa; vice president for Ontario, Dr. A. J. Johnson of Toronto; vice-president for Quebec, Dr. A. R. Marsallais of Montreal; vice-president for New Brunswick, Dr. Myers of Monckton; vice-president for Nova Scotia, Dr. W. G. Putnam of Yarmouth; vice-president for Prince Edward's Island, Dr. S. P. Jenkins of Charlottetown; vice-president for Manitoba, Dr. W. J. Neilson of Winnipeg; vice-president for Northwestern Territories, Dr. Hugh Bain of Prince Albert; vice-president for British Columbia, Dr. O. N. Jones of Victoria; treasurer, Dr. H. B. Small of Ottawa; general secretary, Dr. F. N. G. Star of Toronto. The next meeting of the association will be held at Ottawa.

Quarantine against Tuberculosis—It has been reported recently that Dr. D. D. Crowley introduced a resolution at a meeting of the California Board of Health, which was unanimously adopted, that it consider the propriety of quarantine against the entry of human beings or domestic animals suffering from tuberculosis. Quite a number of journals throughout the country evidently took this matter seriously, and bristled with editorials denouncing the idea. To us it seems hardly worthy of so much consideration. Almost daily, while Congress is in session, do we hear of bills being introduced into the House of Representatives, sometimes by the hundred, any one of which, if it could be considered a possibility to pass that body, would be sufficient to arouse the community to a frenzy of excitement These bills, however, are promptly shelved, the author subsides, and the country is saved. Let us hope that it will not require more than a second thought on the part of the originator of this resolution in California to convince him that it is the only wise policy to submit it to innocu-

ous desuetude. The comments that have been made are certainly sufficient to cause him to regret its conception.

The Yellow-Fever Situation while not alarming has developed certain features that make it appear more serious than when we went to press last week. Cases continue to occur from time to time in New Orleans. At the beginning of the week three new cases were reported in the city, and the Marine Hospital Service announced that it was carefully inspecting all trains that left the city for people who might already have any symptoms of the disease, or have been especially exposed. Toward the end of last week over twenty cases of yellow fever a day were being reported from Key West. On Tuesday of this week the newspapers announced the occurrence of twenty-six new cases. The Marine Hospital authorities have the place under good control, however, and no cases are being reported outside the town itself. There is not much excitement over the present condition of affairs despite the prevalence of the disease. The epidemic is a very mild one. While more than twenty new cases are reported as we go to press there has been but one additional death. The unfavorable feature of the situation is that Key West is below the frost line, and that as a consequence the coming of winter and colder weather will not put a stop to the disease which will have to be conquered by segregation and quarantine or must die out of itself when available susceptible material is exhausted.

The Future of Medical Congresses.— The *New York Medical Journal* calls attention editorially to the fact that the recent International Congress of Obstetricians and Gynecologists at Amsterdam has been made the text by one or two French journals of some spirited remarks concerning medical congresses in general. The feature that seems to have called forth these criticisms is the open-door policy of allowing everybody who chooses to attend and to take part in the proceedings. The original idea of the particular congress referred to was to restrict the papers and discussions to those who were invited by the managers to participate in the proceedings. The objection which the critics offer to this arrangement is that it would restrict the membership and attendance so greatly that the exchequer would be seriously embarrassed. The legitimate expenses attendant upon an assemblage of scientific men, gathered together for the purpose of discussing scientific subjects, however, need not be great. The extravagance that has gradually crept into such gatherings, in the way of elaborate dinners, luncheons, and excursions is entirely gratuitous; these superfluities are not necessary to attract the men whose opinions are desired, but are sought and enjoyed more especially by those who come under the head of "everybody who chooses to attend." The open-door policy is the correct one if the object is to get the profession together and have a good time, but if the chief motive is to secure a consensus of opinion of the leading lights of a specialty the side-shows should be eliminated and the membership restricted.

The Plague Situation has not improved and disquieting rumors are rife. The report last week that plague was in progress at Assuncion in Paraguay has not so far been officially confirmed. Some of the South-American ports have begun most rigorous quarantine to prevent the invasion of the disease. The United States of Columbia is reported as enforcing quarantine very strictly and Peru has followed her example. In Portugal the disease has not yet run its course and at least one new case has occurred since the 20th of the month. The sanitary cordon is accused of inefficiency, and there is very little sympathy among the people themselves with the sanitary measures. There is, however, a brighter side to the reports. A number of bacteriological and sanitary experts have arrived in Portugal from several countries to study and report upon the disease and the measures being adopted for its arrest. Dr. Shadwell, sent out specially from England, is stated to have reported favorably on the steps being taken by the Portuguese authorities to combat the epidemic. Although all agree that the epidemic is mild, increased virulence is dreaded when the next heavy rainfall occurs. The Portuguese government has availed itself of the several experts in Oporto to form an international commission to superintend the employment of antiplague vaccine. While in Portugal they fear that the colder weather may increase the virulence of the disease, in India, as will be seen later, they hope that cool weather will diminish its fatality and epidemic power. At Alexandria there is an interesting confirmation of the fact we noted last week, namely, that just when the sanitary authorities there think they have seen the last of the disease another case or several of them occur. The *British Medical Journal* announced September 16th, "We have the welcome news from Alexandria that at the present moment the city is free from plague; the last case left the hospital on September 7th. We congratulate the sanitary authorities in Alexandria on having got rid of the disease so speedily." On September 24th the daily papers announced the occurrence of two new cases of plague in Alexandria and one death from the disease. At Bombay about twenty new cases with two-thirds as many deaths are being reported daily. It is somehow hoped, though it is against previous experience, that the cold weather will reduce the incidence and the mortality from the disease. The following note from the *British Medical Journal* is practically an official announcement of the terrible situation that has developed with regard to the plague at Poona. "So virulent is the outbreak at Poona that the authorities of the India Office have advertised for medical men to proceed to India on a nine-months' engagement to treat plague. The salary will be 700 rupees, about $280, per month, but to those possessing the diploma of public health or who have already served on plague duty to the satisfaction of the authorities about $320 a month is offered. We understand it is not altogether the small pay that has caused the paucity of applicants for these posts, but the unsatisfactory positions assigned to civil medical men when they enter upon their duties. Applications have to be addressed to the Secretary, Revenue Department, India Office, Whitehall. The number of fresh cases and deaths in Poona amount to about 150 and 110 respectively per

diem. Three Europeans have been attacked by plague in Poona during the past week." In Russia there are certain cases of plague being officially reported, but a series of cases of an infectious disease of unknown character that is very fatal is being reported from various places along the Volga River. As this is a great waterway, and one of the most important commercial routes in the Russian Empire it is easy to see how important it is to know just what these cases are. It is more than suspected, in fact, it is openly suggested by sanitary experts in other countries, that these are cases of true plague. It is feared by many capable sanitarians that the invasion of Europe will come through the Ottoman Empire. The report of a case at Beirut, occurring in a traveler from Alexandria, has a certain adventitious interest for that reason. At Hong Kong there is a decided subsidence of the disease though it retains all its fatality. Most of the individuals attacked die. Along the China Coast generally there would seen to be at least a remission of the disease. Whether this is to be temporary or not remains to be seen, but remissions in plague virulence are quite common.

MEDICAL MATTERS IN NEW YORK.

DEATH FROM YELLOW FEVER—CREMATION IN CITY LIMITS—A BROKEN NECK MENDED—FORETOLD HIS OWN DEATH—A HOME FOR DEAF-MUTES—CITY CARE FOR TUBERCULOSIS PATIENTS—HEALTH REPORT.

PRIVATE OSWALD, who was taken to Swinburne Island from the transport "Buford" on her arrival from Cuba on September 18th, died of yellow fever on September 22d. The "Buford" was thoroughly disinfected, and was permitted to leave for Santiago on September 23d. The three yellow-fever convalescents who arrived from Key West on the "Lampasas" were released on September 25th.

The attempt of the Stephen Merritt Company to operate a crematory in the building at Nineteenth street and Eighth avenue has been frustrated by the Health Board at the instance of a number of indignant citizens in the neighborhood. The company officials declare it was their intention to cremate by liquid air, combined with electricity "and certain gases," and that the residents of the neighborhood would never be aware that a crematory were being operated. They hope to remove the opposition of the Health Board.

On September 18th, at Roosevelt Hospital, Dr. Robert Abbé performed an operation upon the cervical vertebræ of Walter E. Duryea, whose neck was broken on August 7th by a dive into shallow water. With Dr. Abbé were Drs. R. F. Weir and Arthur Fisk, surgeons, and Drs. Pearce Bailey and Fischer, neurologists. Mr. Duryea refused to take ether, and was conscious all through the operation, which was performed under cocain. By the X-ray it was found that the fifth cervical vertebra was fractured, and the posterior portions of the fifth and sixth vertebræ, which were pressing upon the spinal cord, were removed. The original damage to the cord was so great that a very guarded prognosis was made after the operation. At last accounts the patient had slightly improved.

Dr. Luke D. Broughton, homeopathist and astrologer, and for many years president of the Astrological Society of America, died on September 22d at his home at 68 South Washington Square. It is said that he combined the practice of astrology with that of medicine, and that he cast the horoscopes of all his patients. If by this process he would find that a patient who consulted him would die shortly he would do nothing to save him, acting quite in the spirit of the eminent jurist who has lately advocated the right of the individual to a natural death, without interference on the part of physicians with a view to prolonging life. Dr. Broughton is said to have cast his own horoscope and to have foretold his own death.

Up on Washington Heights, between Broadway and Boulevard Lafayette, there is a home called "Fanwood" in which deaf-mutes are sheltered and instructed. The institution began in 1818 at 41 Warren street, with four inmates. In 1829 it was removed to Fiftieth street and Madison avenue, and in 1853 the present site was occupied. Mr. Enoch Henry Currier, the principal, has been a devoted instructor of the deaf-mute for twenty-seven years past. The course of instruction is similar to that at academies in this State. Both boys and girls are taught cooking. A mechanical trade is taught to each boy. During the past eighty years 3729 afflicted children have been educated—hundreds of them free of charge. Among these there have been 7 college professors, 15 clergymen, 7 physicians, 3 lawyers of distinction, and 16 principals of schools for deaf-mutes, not to mention many men and women who in less conspicuous capacities have been useful citizens.

The State Board of Health met at Quarantine in New York Harbor on September 22d, and put itself formally on record as favoring the establishment by municipalities of institutions for the care of tuberculosis patients. Resolutions were adopted recommending to the Legislature that the New York authorities take steps to establish a hospital for consumptives outside of the city limits, and asking the support and cooperation of physicians in an effort to secure action to that end. The authority to establish such a hospital is given, by an act passed by the last Legislature, to any city of the first class, whenever its Board of Health shall deem it necessary for the promotion of the health of its inhabitants. The city Board of Health is to select the site and submit it to the State Board for approval. If thus approved it may be acquired by ordinary processes. It is also provided that wards for the treatment of pulmonary tuberculosis shall be set apart in existing hospitals, with separate nurses, cooking utensils, and washing facilities and plumbing. The city Board of Health, although it has not yet acted, will undoubtedly proceed in unanimity with the State Board. The question of quarantine against tuberculosis was not considered at this meeting. Dr. Daniel Lewis of New York, the president of the State Board, Drs. Doty of New York, F. W. Smith of Syracuse, S. C. Jones of Rochester, and State Engineer Bond were present. Dr. B. T. Smelzer acted as secretary. Reports were also received

in reference to vaccination and the successful prosecution of the work by Boards of Health in schools.

The Health Department submits the following report of contagious diseases for the week ending September 23, 1899: Measles, 55 cases and 7 deaths; diphtheria, 145 cases and 26 deaths; laryngeal diphtheria (croup), 5 cases and 6 deaths; scarlet fever, 80 cases and 4 deaths; chicken-pox, 4 cases; tuberculosis, 106 cases and 128 deaths; typhoid fever, 85 cases and 19 deaths; cerebro-spinal meningitis, 9 deaths; total, 480 cases and 199 deaths.

CORRESPONDENCE.

THE DIDACTIC LECTURE—A REPLY TO DR. HARE.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In reply to Dr. Hare's letter, published in your issue of September 23, 1899, I beg to say that Dr. Hare's opinion with regard to the didactic lecture seems to have changed somewhat in the interval between his two letters. He says now: "The point which I desire to emphasize is that the didactic lecture cannot be absolutely expunged from the roster of the medical school as some would have us believe, although of course such lectures should be much less numerous than they have been in years past." He said in his previous letter: "No means of teaching so well as the didactic lecture enables the student to benefit by the personal experiences of the teacher at whose feet he is studying." Perhaps when he wrote his former letter he wished to make it clear that he advocated the reduction of the number of didactic lectures given at our medical schools, which is of course all any one asks for the present, but if he did he was unfortunate in the expressions chosen to set forth his meaning. Take, for instance, the following sentence, which I quote partly because it seems to me to confirm the position I assumed Dr. Hare to hold in the matter and partly because it illustrates some of the involution of his manner of expression: "The popularity of lectures upon history, literature, art and travel, attests the fact that people enjoy and learn much by attending them, and in addition to imbibing statements of fact which fall from the tongue of the capable teacher, there is in the medical didactic lecture a possibility for the student to grasp the necessary details in connection with the lecturer's theme, which are so essential and so valuable in practical medicine."

Very truly yours,

JAS. J. WALSH.

1973 SEVENTH AVENUE,
NEW YORK, September 25, 1899.

For Fibroids of the Uterus.—The extract of the mammary gland of sheep will often be found very helpful in regulating menstrual symptoms, causing increased regularity, diminution in the flow and of the pain accompanying it, while the tumor or tumors gradually decrease in size. Two to 4 grains of the desiccated gland are given several times a day (up to 12 grains a day) over a period of two months. A depressing action on the heart is not o be anticipated.—*Shober.*

MEDICAL MATTERS IN PHILADELPHIA.

THE PROPOSED CITY WATER-SUPPLY—ANNIVERSARY OF THE WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA—THE SANITARY WORK OF WOMEN — THE QUESTION OF STREET PARADES AND THE DOCTORS—THE FREDERICK DOUGLASS MEMORIAL HOSPITAL—THE LAYING OF THE CORNER-STONE OF THE LUCIEN MOSS MEMORIAL HOME — DR. ROTHROCK REAPPOINTED STATE COMMISSIONER OF FORESTRY —APPOINTMENT OF ASSISTANT PATHOLOGISTS TO THE PHILADELPHIA HOSPITAL — HEALTH REPORT OF PHILADELPHIA.

PHILADELPHIA, September 25, 1899.

FINALLY, after seemingly endless discussion, postponements, and bickerings, the question of the filtration of Philadelphia's water-supply is on the high road toward solution. The commission of three experts, appointed by the Mayor to investigate the question, has just rendered a report covering the entire field, which report was immediately transmitted to Councils for their consideration, and will in turn be submitted to a popular vote of the people of this city at the November elections, if the present plans of the administration do not miscarry. Essentially, the commission's recommendations call for the establishment by the city of plants for the slow filtration of the water-supply derived from both rivers, the Delaware and the Schuylkill, the total cost of the scheme being approximately $12,000,000, which amount it is intended to provide by the passage of a special loan bill. It is believed that now at last the vexed problem of pure water and how to provide it, is solved—or will be solved before many weeks have passed.

The spring of next year will mark the fiftieth anniversary of the founding of the Woman's Medical College of Pennsylvania, and the alumnæ of the institution are anticipating and planning for a fitting celebration of this epoch in the history of the education of women in medicine. Elaborate jubilee exercises are being arranged for this occasion, an interesting feature of which will be the presentation, at the next annual commencement, of a portrait of the late Dr. Ann Preston, who was a member of the first graduating class, and the first Dean of the Faculty. The winter session of the Woman's Medical College was inaugurated September 27th, the introductory address being delivered by Dr. Emma E. Musson, Professor of Laryngology.

The little circle of women, who about one year ago banded themselves together for the purpose of aiding the municipal authorities in promoting public health, has decided that in order to extend their field of usefulness it is advisable to become incorporated. Application to the courts for a charter has, therefore, been made, and henceforth the association will be known as "The Woman's Sanitary League of Pennsylvania." Many of the members have enjoyed wide experience as workers in other sanitary associations, and the first meeting of this new society, to be held during the coming week, will, it is confidently expected, inaugurate an important and busy winter session, to be characterized by increased activity, and by a largely extended scope of the society's labors.

At the meeting of the Philadelphia County Medical

Society, held September 13th, a committee of five members was appointed to confer with the Mayor on the subject of street blockades during the progress of parades, and to arrange to overcome the difficulty experienced by many physicians when on professional calls in getting through the lines of march. It is believed means will be devised by which physicians in future will be given the opportunity to pass through the lines.

The trustees of the Frederick Douglass Memorial Hospital have issued an appeal for funds, to be used in the erection of a larger and more modern hospital building, the expense of the new structure being estimated at about $75,000. The Frederick Douglass Hospital was established four years ago by Dr. N. F. Mossell, the first colored graduate of the Medical School of the University of Pennsylvania, and has devoted its purposes especially to the training of colored women in the nursing profession. Owing to the limited facilities of the institution, last year but six student-nurses could be admitted, out of a total of fifty-eight applicants.

The corner-stone of the Lucien Moss Memorial Home, of the Jewish Hospital, was laid with appropriate ceremonies on September 22d. The new building is to be a part of the main hospital and its cost, including construction and endowment, will be in the neighborhood of $200,000. It will be ready for the reception of patients next spring.

Dr. J. T. Rothrock has been reappointed State Commissioner of Forestry by Governor Stone. Dr. Rothrock was originally appointed to the position by Governor Pattison eight years ago, and so valuable has been his services that he has held the same office through three successive administrations.

At the last meeting of the Board of Charities and Correction held this week, the appointments of Drs. W. B. Jamieson and T. W. Kirkbride, as assistant pathologists to the Philadelphia Hospital, were announced.

The number of deaths in Philadelphia during the week ending September 23d was 371, or an increase of 7 over those of last week, and a decrease of 5 from the corresponding week last year. The following returns of contagious diseases were made: Enteric fever, 76 new cases, 6 deaths; diphtheria, 67 new cases, 18 deaths; scarlet fever, 54 new cases, 3 deaths.

SOCIETY PROCEEDINGS.

THE INTERNATIONAL CONFERENCE FOR THE PREVENTION OF SYPHILIS AND VENEREAL DISEASE.

Held at Brussels, Belgium, September 4 to 8, 1899.

[From Our Special Correspondent.]

THIS meeting may be regarded as one of the most significant in which medical men have ever taken part, since it marks the first international official recognition of the dangers of venereal diseases to society at large. Not only was practically every civilized country represented among the delegates, but the leading parts in the Congress were assigned only to those legal experts and medical specialists whose places at the very head of their respective professions are undisputed. Most of the Continental governments were represented, either directly by the cabinet minister in whose jurisdiction such social questions are placed, or by a personal substitute with equal authority. The *raison d'être* of this Congress lies in the fact that while the advances in medicine and sanitation have enormously reduced the proportionate mortality of many maladies, and in numerous instances have practically stamped out others, yet syphilis and gonorrhea have spread unchecked to every portion of the inhabited earth and into all classes of society, until today they constitute a greater and more actual menace to the health of the people than even cancer and tuberculosis.

The efforts of the Conference were not undertaken in the interests of those who lead an immoral life, but rather on behalf of the tens of thousands of innocent victims who, either through accidental infection or through the sins of husband, father, or brother, are forced to take up one of the heaviest crosses known to man, and bear it silently, often to the grave. It is only within the last few years that investigators have shown us the prominent part which syphilis plays in the etiology of the severest and most hopeless diseases of the nervous system and brain, and that gonorrhea is often in reality a general systemic infection, capable of causing in women inflammatory conditions of the uterus, ovaries, and peritoneum for which no efficient remedial measure has yet been found, and in both sexes such grave conditions as meningitis and peri- and endocarditis.

Inasmuch as the main questions, "The Dangers of Syphilis to Society" and "The Dangers of Gonorrhea to Society" formed the most important subjects for discussion, and about which the remaining themes were grouped, so it devolved upon the two gentlemen selected to present these questions to assume charge of the larger share of the work of the Congress. These men stand so preeminently first as the highest authorities upon their respective branches that a word concerning their personalities may not be out of place.

M. LE PROFESSEUR HENRI FOURNIER, who spoke upon the menace of syphilis to society, is of all the men in the world the one best qualified to do so. As *chef de clinique* of the venereal division of the world-famous St. Louis Hospital in Paris his experience is enormous. His books, "Syphilis et l'Herédité," and "Syphilis et Mariage," as well as those from his facile pen dealing with the treatment of the disease, have long been regarded as classics; they have been translated into all of the modern languages.

PROFESSOR NEISSER, the discoverer of the gonococcus and originator of most of our modern methods of treating gonorrhea, is not only the highest authority upon this subject, but his brilliant research work in the domain of dermatology has won for him a place among the specialists in this branch second to none in the world. Though still comparatively young, Professor Neisser is the director of the newly erected Royal Dermatological Hospital at Breslau. He also enjoys the still greater honor

of being the founder of, and leader in, what is now known as the "Breslau School," the tenets of which aim to sweep away the empiricism which seems to cling so persistently to the pathology and therapeutics of skin and venereal diseases, and the placing of these subjects upon a rational, scientific basis.

Among the medical men who presented reports upon the other questions on the program, perhaps the best known is PROFESSOR DR. KAPOSI, whose text-book on skin diseases is probably the best in the German language. He is the physician in charge of the dermatological clinic of the Vienna General Hospital, the leading exponent of the ideas of his venerated master, Hebra, and the undisputed leader—one might say czar—of the Vienna specialists in diseases of the skin.

PROFESSOR DR. LESSER of Berlin University and the director of the cutaneous and venereal division of the Charité Hospital of that city probably numbers among his students more foreigners than any other instructor in the same subjects in Europe, and any one who has had the privilege of listening to his instructive lectures will not wonder at the reason for his popularity.

DR. BESNIER is *chef de clinique* of the dermatological part of the St. Louis Hospital, an exceedingly careful, thorough worker and clinician, the presiding officer at the meetings of several Parisian medical societies, and a splendid representative of French medical science.

PROFESSOR FINGER of the University of Vienna has written two excellent works upon venereal diseases, and is Austria's most progressive specialist in this branch of medicine. As a close and accurate student of the pathology of syphilitic and gonorrheal processes Professor Finger is known throughout the world.

PROFESSOR LASSAR owns the largest and best-appointed private clinic in Berlin, and is the editor of the *Dermatologische Zietschrift*, in which the results of his own work and that of his assistants are published.

PROFESSOR YADASSOHN of Berne has already published several interesting articles upon the subject of prostitution and its control by the State. He was for several years first assistant to Professor Neisser at Breslau, and is, like his celebrated teacher, an expert in pathological histology and bacteriology.

The delegates from England contain among their number several of the most distinguished medical authorities in the United Kingdom. DR. JONATHAN HUTCHINSON of London is undisputably the highest authority on syphilis and venereal diseases among English-speaking physicians, and in the estimation of all other nations is placed second only to his friend, M. Fournier. Dr. Hutchinson enjoys almost every honor which British medicine can give.

As a syphilologist DR. ALFRED COOPER has already won a high position for himself, and his ably written books on venereal disease are very widely read. DR. RADCLIFFE CROKER of London is not only a splendid representative of the British dermatological school and the ideal type of the English gentleman, but as a specialist and teacher of diseases of the skin he stands among the best in the world.

COLONEL RICHARDSON and MAJOR MACPHERSON are the official representatives of the English Army Medical Corps.

PROFESSOR SAUNDBY is president of the Council of the British Medical Association, and delegate of that Society at the conference.

DRS. DRYSDALE of London and BIRBECK-NEVINS o Liverpool, HENRY WILSON, M.P., and MISS LEPPINGTON of Warwickshire are the leading English members of the minority which opposes official recognition of prostitution.

America was represented by DR. LISTON MONTGOMERY of Chicago, delegate of the United States Government, American Medical Association, Chicago Medical Society, and Chicago Board of Health; DRS. LUSTGARTEN of New York, BLOOM and KASDIN of the United States Navy. Of these Dr. Montgomery alone took an active part in the proceedings.

The above list is far from complete, and many names, known wherever medicine is practised, must be omitted for lack of space. Before concluding these notes some mention must be made of the splendid representatives of Japan. This country sent to the Conference no less than five, who were certainly a credit to their native land. In their thorough comprehension of the questions discussed, their extraordinary command of the three languages used, and their highly finished manners they won immediate recognition.

The majority of the members of the Congress arrived during the Saturday and Sunday preceding the opening session, and on Sunday evening were brought together and handsomely entertained at the Hotel Ravenstein, where they were afforded a most welcome chance to become generally acquainted. On Monday evening the presiding officer, M. Lejeune, received the members at his beautiful residence. The evening of the following day was used by the Minister of Foreign Affairs, M. Favereau, and his charming wife, who gave a ball. The Mayor of Brussels and Councillors of the city threw open the famous Hotel de Ville on Wednesday from 9 to 12 P.M., and gave the participants in the Conference a chance to see the beautiful works of art which this wonderful and historic structure contains.

The banquet, given at the Grand Hotel, for the foreign members by those from Belgium and the Organization Committee, was a delightful and brilliant climax to the hearty, sincere, and most lavish hospitality which, from the beginning, had formed such a leading feature of the event, and contributed so greatly to general cooperation in the work.

But the delegates and members were, at the close of the final session, shown a still greater honor, as the King of Belgium, who had been following the proceedings from day to day with great interest, journeyed from his summer palace at Lacken in order to receive the participants at the royal residence from 3 to 5 P.M., and to thank them for their labors.

The organization of the meeting was simply superb. On every hand the members found their wishes anticipated and fulfilled, their requests attended to with cour-

teous alacrity and precision, and such kindly aid shown one and all that the confusion, which is almost an inevitable concomitant of all large gatherings, was entirely absent. Each detail was systematized so thoroughly that the business went through with beautiful smoothness. Indeed, the amount of care and intelligent forethought was such, that upon the spontaneous suggestion of a large number of members, a subscription list was quietly started and so well subscribed to, that on the following evening, at the beginning of the banquet at the Grand Hotel, an exqisitely executed bronze statue was presented to the secretary-general and leading spirit of the organization committee, DR. DUBOIS-HAVENITH, as a grateful tribute to his ceaseless and untiring labors, which did so much to make the Conference so successful.

The beautiful *salle de débats*, of the Palais des Academie, embellished with famous historical paintings, statuary, and busts, was tendered by the city for the use of the gathering, and the scene at the opening session, Monday morning, September 4th, was both brilliant and impressive. The gala uniforms of France, Germany, Austria, Russia, and Belgium, as well as the colored ribbons, medals, stars, and grand crosses of the chief European civil and military orders, were everywhere in evidence. In a few minutes the members had seated themselves. The Minister of Agriculture and Public Works, M. LE BARON LE BRUYN, M. LE DR. TROOZ, Minister of the Interior, and M. BULS, Mayor of Brussels welcomed the members of the Congress in most cordial speeches and expressed the heartiest sympathy with the objects of the meeting, together with the sincere hope that success might crown the efforts of the assemblage. Dr. Dubois-Havenith then announced the selection of the following presiding officers: President, M. le Senateur le Jeune, Minister of State; Dr. Dubois-Havenith, secretary-general; Dr. Bayet, secretary. He then declared the meeting open, and the work of the day was at once begun.

The first question: "Does Official Control of Prostitution Lessen the Spread of Venereal Disease?" occupied both the morning and afternoon sessions of Monday and the entire session of Tuesday. Speeches were limited to a quarter of an hour, and in the first half-dozen discourses it became evident that while the majority of the members regarded municipal supervision of some sort as our only means of combating this terrible scourge yet the minority composed of DRS. AUGAGNIER of Lyons, A. FIAUX of Paris, and DRS. DRYSDALE, and NEVINS, MR. WILSON, M.P., and MISS LEPPINGTON of the English delegation, made up in aggressiveness what they lacked in numbers, and in vigorous speeches denounced as wholly bad every form of legal measures. The English members based their arguments upon the workings of their "Contagious Diseases Acts," which were abolished in 1886. They claimed that not only did these laws fail to improve the sexual health of the people, but the large increase of venereal disease may be directly attributed to such legislation. Here several members arose to question the thoroughness of execution of these laws. Drs. Augagnier and Fiaux based their opposition upon the many obvious defects of the present Parisian prostitution regulations, and presented to the members many elaborate tables of figures which were supposed to show the futility of all governmental interference. These formidable weapons in the argument were soon rendered useless, however, by an extremely clever motion by DR. EHLERS of Copenhagen, who reminded the members of the many failings of even the most careful tables of statistics, and advised that all speakers should dispense as far as possible, with these. The suggestion met with immediate general approval, much to the disappointment of the minority. The English representatives of the opposition had covered many square yards of the walls with huge statistical charts, and had relied chiefly on these for the basis of their antagonism.

PROFESSOR FOURNIER of Paris spoke several times of the workings of the present regulations, and freely admitted their many shortcomings and incompleteness. He said that in spite of their many obvious defects, many of which could be remedied, these measures could not help doing a very great amount of good, for even though they enabled the segregation and compulsory treatment of only a half or a third of all syphilitic courtesans, yet this meant the isolation of so many centers of contagion. And inasmuch as each woman would otherwise infect from two to four men daily, as prophylactic measures the value of all such laws are beyond dispute.

PROFESSER NEISSER heartily endorsed all that his predecessor had said, and desired to express his entire confidence in the ability of suitable laws, properly executed, to diminish the amount of venereal disease. We succeed in preventing the spread of many contagious diseases by legal measures, and if those against the most dangerous of all foes of public health, venereal disease, were to be executed with an energy equal to that with which we fight some of the acute exanthematæ, our results would be equally satisfactory. These is no reason why gonorrhea and syphilis cannot be enormously decreased, and in course of time almost stamped out. It is all a question of energy, determination, and concerted international action.

PROFESSORS KAPOSI of Vienna and LASSAR of Berlin believed thoroughly in the efficacy of official control. It is our only means of controlling existing evils and preventing their continued increase. Those who would abolish such control assume an attitude of unproductive cynicism, and are unable to suggest other practical remedial measures. The evil increases daily; something must be done for the sake of the health of future generations. Instead of disparaging all efforts toward lessening the spread of this disease, we should use our time and energies toward the perfecting of all means which are to day at our command. This is the only manner in which we can succeed.

MISS LEPPINGTON of Warwickshire, England, presented several aspects of the question under discussion, but as her discourse touched upon the moral rather than scientific side she was called to order by the president and obliged to desist.

DR. BIRBECK-NEVINS of Liverpool read what was perhaps the most representative paper of the opponents of

official regulation, but, like those of his countrymen, his arguments were based wholly upon the rather doubtful workings of the English prostitution laws, and hence did not make much impression. Dr. Nevins, after relating the results of all English measures on behalf of the Army and Navy, quoted statistics published some years ago by Professor Fournier. The latter gentleman, however, in a few words exposed the false interpretation to which his figures had been put, and Dr. Nevins retired.

The discussion of the first question continued throughout the first three sessions without any general and unanimous conclusions having been reached.

On Wednesday morning, the third day, work upon the second and third questions was begun. The theme, "Is the Present Organization of Medical Surveillance Capable of Improvement?" brought out many interesting suggestions. PROFESSOR YADASSOHN of Berne who, owing to the illness of PROFESSOR FINGER of Vienna was the sole official reporter, is already well known for his previously published works upon this subject. He made the following proposals: More frequent and more thorough medical examinations; syphilitics should be under control and treatment for their own sakes as well as that of the State for at least three years; first in the hospital until the infectious stage has passed, and then in the polyclinic (out-patient department). State control certainly does, to a certain extent, protect debauchery. It should, therefore, be generally known that even the best supervision can by no means *guarantee* against venereal infection; microscopic examinations of gonococci in all cases of suspected gonorrhea, and more thorough and longer continued treatment of this disease. DR. FIAUX (France) once more presented endless statistics to prove the harm which official control causes.

DR. LE PILEUR spoke of the practical workings of various systems of control applying to houses of ill-fame and *maisons d'assignation*, and expressed the opinion that such supervision should be arranged not only to offer far less offence to the public morals, but surely and absolutely to prevent the spreading of venereal disease. Indeed, it is in the houses that regulation could be carried out to perfection.

DR. HOEFFEL of Alsace-Lorraine, though a decided believer in official control, showed that such measures had been thoroughly carried out in Alsace, but for some reason unknown had proven useless.

DR. BLASCHKO of Berlin, author of several works upon the subject, took a position in the discussion between the advocates of official supervision and those who would abolish it. As a result of his large practical experience as an official of the sanitary police in Berlin he thinks the present systems in vogue are inappropriate because they apply only to the older prostitutes, and not to the more active, more dangerous, but less known younger ones. He proposed that only those prostitutes who are known to have caused venereal infection or are guilty of gross indecency should be placed under surveillance. In these instances compulsory laws are absolutely necessary.

M. RETHAN MACARE, Chief Justice to the Queen of Holland, opposed control of bawdy houses, as he believed this would increase immorality.

DR. BLASCHKO again rose to say that treatment of venereal diseases should be largely voluntary. PROFESSOR LESSER of Berlin disagreed upon this point. He said that infected women do not feel inconvenienced or actually ill, and, therefore, would certainly not be likely to present themselves for treatment of their own accord, but would more probably go about spreading their disease. They should have adequate treatment forced upon them, as much for their own sake as for the sake of public hygiene.

PROFESSOR FOURNIER of Paris stood decidedly for regulation, especially of brothels, as the results of supervision are in this class especially promising, and could be made more so. To omit this would be casting away one of our strongest weapons. The state of the prostitutes themselves would be greatly bettered; they would be freed from their present slavery to the keepers of houses, and would always have a chance to reform. The stricter police surveillance would make such resorts less attractive to revellers and all classes of patrons. From a sanitary standpoint everybody admits the immense improvement which would result. Then why not adopt such control?

MADAME BIEBER-BOEHM of Berlin, President of the German Society for the Protection of Young Girls, read an extremely able and reasonable paper. She called upon physicians to make more use of their opportunities to give sound moral counsel to their youthful patients.

On the fourth day, September 7th, although work upon the fourth and fifth questions of the meeting was begun, the speeches differed but little in their ideas from those of the previous days. It became a hotly contested discussion for and against official recognition of prostitution, rather than of the details of the subject. Nor was this improper, since the definite endorsement of control of prostitution by the State would render all other remaining work a matter of detail, to be adapted to the conditions prevailing in each country and perfected by the results of practical experience. That a unanimous conclusion could be reached was hardly expected, even by the most sanguine of the gathering. So the results of the prolonged debate were far from disappointing, though they left the subject practically where it stood at the beginning. One could note the almost hourly increase of interest in the work, and many prominent men, whose presence had previously been chiefly of the perfunctory sort, toward the closing hours became impassioned speakers for the affirmative or negative side of the question. That from now on the subject will receive the closest attention, not only from the highest medical authorities, but from students of social science and the most influential of public men as well, can hardly be doubted. It is in arousing such genuine, widespread, and enthusiastic interest in the question of prostitution and prevention of venereal disease that the Conference achieved a far greater and higher aim than anything which could be represented in a few crystallized resolutions. Nevertheless, these were not wanting, for after HERR SCHMOLDER of Wesphalia, DRS. MIREUR of Marseilles, FIAUX,

PIERSON of Holland and several others of the abolitionist side had stated their views in fifteen-minute speeches, PROFESSOR FOURNIER arose and offered for endorsement by the Congress the following recommendation:

"The International Congress for the Prophylaxis of Syphilis and Venereal Diseases expresses the desire that the various governments use all powers with a view to suppressing absolutely prostitution amongst girls who are regarded according to civil law as minors." After one or two inquiries concerning the technicalities of translating this into English and German had been made, the recommendation—the authors of which are Professor Fournier and the Minister of State, Lejeune—was passed by a unanimous vote amid great applause.

The remaining time of the day's session was put to excellent use by M. GEORGES HONNORAT, Chief of the First Division of the Prefecture of Police, Paris, who explained the workings of the Parisian regulations regarding prostitutes and brothels. As a result of his wide experience he has become a firm believer in the efficacy of official control of such women.

On the fifth and last day, September 8th, the interest and enthusiasm, so noticeable on the previous day, reached its height, and together with the brilliant speeches of the leading men and the passing of important resolutions, combined to form a fitting close to the memorable gathering.

M. RETHAN MACARE, PROFESSOR WOLFF of Strasburg, PROFESSOR HOLST and DR. MORGENSTEIN of Christiania were among the first speakers. PROFESSOR NEISSER then arose, and in a short but forceful speech expressed his views. To one who looks at the subject fairly and practically there is not the slightest ground for cynicism concerning the results of intelligent treatment of syphilis and gonorrhea. As one of especial experience in the treatment of the latter disease he wished to express in the strongest possible terms his disapproval of those who are therapeutic nihilists as far as these maladies are concerned. The prompt and energetic treatment of gonorrhea in its first stage is in nearly all cases followed by a thorough cure. The disease in the female, if we can attack it before it has passed beyond the cervix, will yield as readily as in the man. This is one of the strongest grounds for advocating official control of prostitution. Such control, if left chiefly in the hands of police officials, certainly would in many ways be open to well-founded objection. It should, therefore, be almost wholly medical in character, with police always at hand to enforce obedience.

DR. JONATHAN HUTCHINSON of London then arose amid great general enthusiasm, and his only speech at the Congress will certainly become a classic upon the topic. Dr. Hutchinson said that after studying syphilis and its manifestations as he sees it in England, he has become an optimist regarding the influence which the disease exerts upon the Anglo-Saxon race. He recognizes the extreme gravity of the malady, particularly in the etiology of the most fearful and hopeless affections of the brain and spinal cord, but deplores to the utmost the sensationalism which has caused such an exaggerated fear of the disease. As regulation is an impossibility in England, we must perforce confine our efforts to suppressing as far as possible the transmission of the contagion. After an experience extending over fifty years, Dr. Hutchinson has reached the conclusion that when syphilis has existed in a patient for a period of two years it is then incapable of being transmitted hereditarily. The spread of the infection is thus, to a certain extent, limited by time. Hereditary syphilis is almost unknown in the better classes of society, and if the poor people—who suffer from it most—could enjoy the same facilities for treatment, they would be equally free from such forms of the disease. Syphilis which has been inherited does not extend to the third generation. Dr. Hutchinson heartily endorses early treatment, as when this is begun before the secondary symptoms appear, the most contagious period of the disease is entirely suppressed, and the danger of contagion accordingly diminished. This method is now so generally used in England that in private practice a well-marked case of secondary minifestations is comparatively rare. The hospitals should readily and willingly admit all cases of syphilis without question and give thorough treatment for the disease.

All places where young men congregate should be made to furnish instruction upon the dangers of prostitution and the venereal diseases. Moral education, without reference to religion, should endeavor to foster higher respect for women. This, now more prevalent than in former years, Dr. Hutchinson has noticed particularly among his medical students. The sense of responsibility in sexual matters should be increased. The Quakers believe in the laudable idea of masculine chastity until marriage, and to this the speaker attributed the total freedom of this sect from general paralysis of the insane. In regard to the Army and Navy, the old notion that drunkenness and debauchery is only to be expected of the common soldier and sailor should be done away with. We should make him respect himself, and in turn respect him as we do any decent workingman.

There should be better post-graduate medical education in order to enable all practitioners to receive the instruction and experience necessary for the accurate diagnosis and proper treatment of venereal disease. Under the systems of teaching now in vogue this, the right of every patient, could hardly be expected of the young medical graduate.

As a result of his individual knowledge of the extent of syphilis prevailing in the English Army, Dr. Hutchinson believes that the reports of its influence upon, and frequency among, the men has been greatly exaggerated, and the official reports upon the subject falsely interpreted. He is strongly opposed to the State taking under its protection such a vice as prostitution, but is sure that the people of Great Britain would gladly endorse all other means, which will probably be of a moral character.

PROFESSOR LESSER of Berlin did not agree with Dr. Blaschko regarding voluntary treatment of venereal disease. That is, that treatment of venereal disease should be made optional, not compulsory, in the out-patient department of hospitals, as the class who are seen here live

in dwellings which from a hygienic standpoint are miserable, and have neither means nor facilities for obtaining nourishing food and bathing which to-day play such an important part in our modern methods of treatment of severe venereal cases.

PROFESSOR FROISFONTAINE of Liege showed the Congress copies of the little books of advice and warning of the contagious nature of the maladies and necessity for their cooperation for thorough treatment, etc., which are supplied to the venereal patients of the Royal University Dermatological Hospital of Breslau. Professor Froisfontaine heartily endorses this simple but effective means of diffusing knowledge of the contagiousness of syphilis and gonorrhea among lower circles.

PROFESSOR FOURNIER of Paris suggested that the best prophylaxis against the spread of venereal disease is the more thorough treatment of that already existing. This is especially so regarding syphilis. If necessary the expenses for thorough treatment of each case should be borne by the government. It should supply ample free treatment for all specific cases applying for such. In each patient the cost to the government of all medicines would not be more than a dollar, and for this sum the treatment would in all cases certainly tide over the most infectious stage, and in many result in a permanent cure. The speaker, therefore, offered the following suggestions: (1) Absolutely free treatment for all cases of syphilis. (2) The facilities for the most thorough treatment of all cases of syphilis should be improved and extended. (3) The privacy of the consultation of a free venereal patient with the hospital physician should be equal to that prevailing in private practice, and measures ought to obtain this result. It should be made a rule that each patient's talk with the physician should be behind closed doors and alone with him. The methods now existing in many hospitals amount almost to a "public confession" of syphilitic infection. This not only injures the patient's social prospects, but his material ones as well.

The speaking at the Congress was now at an end, and the following recommendations, which had been carefully prepared by the members during the previous two days, were then unanimously adopted.

I. The resolution of PROFESSOR FOURNIER, as already stated, concerning international measures for the abolition of prostitution among females of minor age.

II. That the present conference serve as a beginning for the foundation of an International Society for Moral and Sanitary Prophylaxis against the Evils of Prostitution and Venereal Disease. That such Society shall publish a quarterly report or magazine containing articles by the members upon these social questions. That the next reunion of the Conference will be held in 1907 at Brussels and every three years thereafter. That the official seat of the permanent committee shall be at Brussels. That French shall be the official language, but articles in French, German, English, and Italian may be accepted for publication. The following provisional committee on organization was elected: President, M. LEJEUNE, Minister of State, Brussels; vice-president, M. BECO, Minister of Public Health and Hygiene; secretary-general, M. DUBOIS-HAVENITH, agérgé de l'Université de Bruxelles.

III. Resolution presented by PROFESSORS FOURNIER, NEISSER, HUTCHINSON, LESSER, WOLFF, and MRACEK: The Conference holds that a thorough knowledge of venereal disease constitutes one of the most important means of combating the spread of these maladies. The governments are therefore urged to compel the most thorough education of students in this branch. That the instruction should in all cases be given by competent specialists, and there should be instituted in each university complete and obligatory courses upon these diseases. That each government should insist upon a strict examination in these subjects, to be presided over by specialists, as requirement for the medical degree.

IV. That the guardians of orphans be held responsible to the State for the moral welfare as well as the material interests of their charges. That those entrusted with the education of youths will give all possible solicitude to their moral development, which is to include the common-sense principles of temperance, and the cultivation of a high, manly respect for woman, whatever be her social condition.

V. The Conference pleads that the governments use the greatest possible severity in punishing panderers and procurers.

VI. Proposed by PROFESSOR SAUNDBY on behalf of the British Medical Association: The Conference demands of the governments of all countries the establishment of a commission whose duty shall be: (1) To determine the frequency of venereal diseases amongst the civil population exclusive of temporary variations. (2) To inquire into the institutions already in existence for the treatment of venereal disease, the distribution of such hospitals, the number of beds at the disposal of each locality, and the proposal of the most effective measures for treatment of these maladies. (3) The collection of different opinions concerning the best means for preventing and effacing the dissemination of venereal disease among the civil population, and reporting their conclusions.

VII. Proposed by PROFESSOR LASSAR of Berlin: The governments are urged upon all favorable occasions to call the attention of the population, and particularly the young men, to the dangers of prostitution to both sexes and the sinister consequences of venereal disease.

VIII. Proposed by DRS. PIERSON and FIAUX: The Conference recommends that a uniform system shall be used in all countries for the gathering of statistics concerning prostitution and venereal disease.

PROFESSOR FOURNIER rose at the end of the session and proposed that the members of the Conference offer a vote of thanks to the Belgian government for its splendid hospitality and kindness to the Congress, also that an expression of gratitude be extended to the organizer of the Congress, Dr. Dubois-Havenith, and his able assistants, for their untiring and constant efforts which had contributed so largely to its success as well as the pleasure and comfort of the members. This resolution was passed amid great applause, and the Conference ended.

CHARLES WOOD MCMURTRY, MD.

BRUSSELS, September 9, 1899.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Abstract of the Proceedings of the Twelfth Annual Meeting, Held at Indianapolis, Indiana, September 19, 20, and 21, 1899.

FIRST DAY—SEPTEMBER 19TH.

THE Association convened in the Century Club rooms of the Denison House under the Presidency of DR. EDWARD J. ILL of Newark, N. J. An address of welcome was delivered by Mayor Taggart, which was responded to by the President. After the transaction of routine business in executive session the reading of papers was proceeded with.

DR. JAMES F. BALDWIN of Columbus, Ohio, reported

THREE RARE CASES OF KIDNEY CYSTS.

CASE I. *Enormous Hydronephrosis Simulating Ovarian Cystoma.*—The tumor in this case filled the entire abdomen and entered the true pelvis, pushing the uterus to the left. The patient was unaware of the existence of any tumor, but thought she was getting stout for two years. There was no history whatever of any disturbance about the kidney. The enlargement was much more marked on the left side of the abdomen. At the operation the tumor was found to be hydronephrotic, of the right side, and with the entire destruction of all kidney tissue. The blood-vessels had so far disappeared that the only pedicle was an enormously distended ureter resembling a piece of small intestine. The cyst, which was retrocolic, was enucleated without special difficulty, and recovery was uninterrupted.

CASE II.—A large paranephritic cyst, containing about 1½ pints of straw-colored fluid resembling urine. The cyst wall was exceedingly thin, but was successfully enucleated and the cavity closed with temporary drainage. Healing occurred by first intention.

CASE III. *Hydronephrosis of a Retrorectal Congenitally Misplaced and Sarcomatous Kidney.*—This tumor filled the pelvis, pushing the uterus up and pressing so firmly upon the urethra as to necessitate the use of a catheter. The rectum was so pressed upon as to render defecation almost impossible. After separating the tissues the cyst was tapped through the vagina and about one quart of urinous fluid drawn off. The completion of the enucleation had to be made through the abdomen. The specimen proved to be a sarcomatous kidney congenitally misplaced in the pelvis. During the development of the disease hydronephrosis resulted, giving rise to the cyst which obstructed the pelvis. The patient recovered without difficulty and continued well at the time of the report.

While hydronephrosis simulating ovarian cystoma is not excessively rare, paranephritic cysts of any considerable size at least have been very seldom reported. The case of hydronephrosis of a pelvic kidney is, so far as the reporter could ascertain after a somewhat extended correspondence, entirely unique.

DR. JAMES F. W. ROSS of Toronto called attention to a point in connection with the diagnosis of cystic tumors of the kidney, and it was this: Given a tumor that is unilocular by fluctuation, but looks like a multilocular tumor, in consequence of the striæ it is always a tumor of the kidney, and not of the ovary. He believes that if the end of the ureter is tied with catgut it can be left in the course of a nephrectomy, and he does not think it is necessary to follow the ureter down to the bladder.

DR. LEWIS S. MCMURTRY of Louisville concurred in the remarks of Dr. Ross in regard to dealing with the ureter. In a number of cases of nephrectomy that he had performed the ureter was not dilated as much as in the case described by the essayist. In one case particularly he did not attempt to trace the ureter down to the bladder and remove it, but left it and it did not give any trouble.

DR. L. H. DUNNING of Indianapolis directed attention to an important diagnostic point in dealing with cysts of the kidney, namely, the presence of the colon in front of the tumor. He has been able to demonstrate this in large sarcomatous tumors of the kidney, and by pumping the colon full of air the distended colon can be seen running over the outer border or center of the tumor. He has removed three kidneys for tuberculosis. In one instance he did not tie the ureter; he did not dissect and remove it far down toward the bladder, and he had considerable trouble in that case, following it for some time. He thinks it is unsafe in tuberculosis of the kidney to leave the ureter and believes it ought to be removed low down in the pelvis and tied wherever it is left.

DR. J. HENRY CARSTENS of Detroit said that surgeons always had more or less difficulty in making the diagnosis in the cases under discussion, and while the point brought out by Dr. Dunning was a good one, it did not always hold good. He recalled one case in which he supposed he had an ovarian tumor, but found a hydronephrotic kidney as large as that of the first case reported by the essayist. The kidney was very loose and afterward a stone was found in it. The stone was quite large. He believes that when we have a loose kidney which flops around it may grow over the colon, and the colon in some of these cases is behind instead of in front of the tumor.

DR. JOSEPH EASTMAN of Indianapolis (by invitation), stated that he had recently had a case of pancreatic cyst as large as a human head or larger, and it was very satisfactory to notice the ascent and descent of this tumor during inspiration and expiration, a thing not possible if the tumor had been post-peritoneal or connected with the kidney. The pancreatic cyst had distended the mesocolon to such an extent that the transverse colon was very perceptible, lying across in front of the enormous pancreatic cyst; so that the diagnostic point mentioned by Dr. Dunning is applicable to pancreatic cysts.

DR. JOHN M. DUFF of Pittsburg narrated an instructive case in which a diagnosis of abscess of the spleen had been made, but a more careful subsequent examination revealed the fact that the tumor was connected with the kidney, as he had suspected. A median incision was made; the tumor had pushed up the mesocolon; the colon was adherent to the tumor around at the side, and the mesocolon was almost ulcerated through. The kidney was removed through the mesocolon. There was no secretion of urine from the kidney, an examination not

having been made with the Harris instrument for the purpose of ascertaining the condition of the urine from both kidneys.

DR. DUNNING asked as to the reliability of the Harris instrument, to which DR. BALDWIN replied that it was a very satisfactory instrument. He had used it several times in the female.

ECTOPIC GESTATION: SHALL THE PATIENT BE OPERATED UPON AT OR NEAR FULL TERM, THE CHILD BEING ALIVE?

DR. L. H. DUNNING of Indianapolis read a paper on this subject. As preliminary to a discussion of this theme, he reported the history of a case of ectopic gestation of eight-months' duration and operated upon five weeks after the death of the fetus. He said that the proper treatment of ectopic pregnancy after the six month, when the child is still living, is still under discussion. He wrote his paper for the purpose of considering one phase only of the subject, namely, shall operative intervention be instituted during the period of viability of the child, or shall we await the death of the child and the cessation of the active circulation of the placenta, then operate? The settlement of this question he said must hinge upon the relative mortality to the mother of the different procedures. The ectopic infant is of such low vitality and so frequently deformed that if to rescue it greatly jeopardizes the life of the mother, then ethically one must withhold the hand and permit it to die that the greater life may be saved. Such have been the sentiments of the writer for many years. He has had three cases of ectopic gestation at or near full term. In the first, the operation was done during spurious labor at full term. In this case, although fetal movements were detected one hour before operation, the child never breathed after removal by abdominal incision. The mother died the eighth day after operation of hemorrhage, resulting from the removal of the placenta which was left at the time of the initial operation. The placenta was removed thus early in consequence of impending death from septicemia. The other two cases were briefly narrated. A statistical table accompanied the paper. He stated that if the tables given by him approximately show the percentage of recoveries to mothers, then there was an answer to the perplexing and hitherto mooted question, "Shall operative intervention be instituted during the life of the child or only after its death?" We are not compelled to longer consider and weigh the probability of the length of life in days of the child; the safety of the mother alone demands intervention. Undoubtedly other questions will urge themselves upon us, such, for instance, as, Is it less dangerous to operate at six months or nine months? and, What treatment of the placenta yields the least mortality? These are still under discussion. "Is it safer for the mother to be operated upon in a case of ectopic gestation during the viability of the fetus?" The speaker said that in his opinion the statistics collected and compiled by him are so nearly complete and correct that the answer may now be given unqualifiedly in the affirmative. There will be undoubtedly individual cases in which the good judgment of the surgeon will direct him to await the death of the fetus. These will be exceptional cases. The rule will be to operate at or near term during the life of the child.

DR. CARSTENS agreed with the essayist that the proper way, other things being equal, is to operate at once when the child is living and viable. The placenta is not always attached to the broad ligament. Often rupture takes place, and the placenta is attached to the intestine, the colon, the rectum, or the sigmoid, and in cases of that kind it is utterly impossible to remove the placenta when an operation is performed when the child is alive. He had seen such operations performed by other surgeons, and the patients invariably died from hemorrhage.

DR. MCMURTRY thought Dr. Carstens struck the keynote in determining the course to pursue in these cases. By referring to one of the earlier volumes of Transactions of the Association a case reported by him would be found where the fetus had gone to full term, was dead, and some weeks after a spurious labor, when there were beginning septic symptoms, he operated. No fetal movements had been observed for nearly three weeks. The placenta was very large; there was no sign of any atrophic changes in it in consequence of the death of the fetus; it was spread out over one side of the uterus, over the colon and ileum, and there was such a hemorrhage as will obtain from an attempt to enucleate the placenta as never will be seen under any other circumstances at the operating-table. It was perfectly dreadful, the woman being exsanguinated within a minute, the pelvis being full of blood. When the placenta is disposed toward the broad ligament and uterus, as in the case described by Dr. Dunning, he believes there is a good opportunity for complete enucleation of it.

WHAT SHALL WE DO WITH THE POST-OPERATIVE HEMORRHAGE OF CELIOTOMY?

This was the title of a paper contributed by DR. D. TOD GILLIAM of Columbus, Ohio.

Cases of post-operative hemorrhage were cited. The author said he had very little to offer in the way of suggestion. Some time since he had in charge a young lady who was subject to the most violent and persistent uterine hemorrhage of unaccountable origin. She had passed through many hands before coming to him, and he had tried many of the vaunted remedies without avail, as she could not make up her mind to have a curettage, and during one of her spells she fell into the hands of his brother, Dr. Charles F. Gilliam. He placed her on atropin with the result that after the physiological effects of the drug became manifest the bleeding ceased. Since then her attacks have been less frequent and always promptly amenable to the atropin treatment. Other cases followed in the practice of Dr. Gilliam and his brother, among which were some in which the patients had been curetted, and in every instance so far the hemorrhage had been controlled by the atropin. The results had been so convincing in these cases that had fallen under his observation as to force conviction.

As to the modus operandi of atropin he could only speculate. It is known that atropin increases the cutane-

ous circulation, producing a general and marked hyperemia of the surface; it is known that the cutaneous vessels are capable of containing nearly one-half of the blood of the body, hence by derivation it diminishes the amount of blood circulating in the internal organs. The author thinks it quite likely that the vasomotor action which dilates the cutaneous vessels coincidently and by way of equation constringes the visceral vessels. The duodenal ulcers resulting from extensive burns of the skin would argue in favor of compensatory vascularity. It is not expected that this or any other medicinal agent will arrest the torrential hemorrhage of the larger vessels, such as the uterine or ovarian arteries, but is especially applicable to that troublesome form of hemorrhage which emanates from numerous vessels of smaller caliber.

Dr. H. W. Longyear of Detroit said that there is no class of cases more puzzling to him than those which showed the condition of collapse described by the essayist, indicative of internal hemorrhage. And yet there are other conditions which produce the same symptoms, and the surgeon has got to use fine discrimination. If he knows a vessel is bleeding, he considers it his duty to cut down and search for the bleeding-point, no matter what the condition of the patient may be. In a case of ruptured tubal pregnancy, where there is internal hemorrhage going on, it is the duty of the surgeon to reopen and do the best he can. It is not always easy to find the bleeding vessel.

Dr. Rufus B. Hall of Cincinnati stated that hemorrhage or shock could be determined largely by the operator himself. When a patient is put to bed after an operation the surgeon is pretty well aware whether there is great danger of secondary hemorrhage or not. If the operation has been a complicated one and a condition is left which adds to the risk of hemorrhage, this aids the surgeon materially in determining whether or not the patient is bleeding or suffering from shock. He would not hesitate a moment to take out a stitch, after the abdomen is closed without drainage, and he believes without very extensive exploration he could determine readily and certainly whether hemorrhage was taking place or not.

Dr. Edwin Ricketts of Cincinnati said that whenever ligatures are used there is one procedure that is very valuable, one always resorted to by Bantock, that is, crushing the tissues for one-half or one-quarter of a minute by the heavy clamp, and after the removal of the clamp the ligature is applied. The angiotribe, which is being advocated by some operators, in which the ligature is not used at all, is applied and permitted to remain for two and a half minutes, and then removed, and it is claimed no hemorrhage follows its application. The plan, however, suggested by Bantock is one that should not be lost sight of in applying the ligature.

Dr. Robert T. Morris of New York made some remarks on

COCCYGEAL DERMOID FISTULÆ.

The subject of coccygeal dermoid fistulæ is apparently one that has not received very much attention as he finds little reference to it in the literature. Occasionally some one has reported the finding of a dermoid cyst in the coccygeal region, but without making comments on the way in which such cysts are likely to have been formed. He has seen reference to cysts only, but on making a study of the subject he finds that surgeons are much more apt to find fistulæ than cysts. They are more apt to find depressions than fistulæ. In the region of the coccyx not infrequently funnel-shaped depressions of the skin are found. Fistulæ are less frequent, extending to a depth of from half an inch to four inches in his deepest case; and still less frequently wholly encapsulated cysts are observed. The fistulæ and cysts contain straight hairs of the lanugo type mostly, although he has seen some nearly three inches in length, straight, in a mass, and welded together by sebaceous material. The sebaceous material escapes in large quantities from the fistulæ; it remains encapsulated in the cysts and in the funnel-shaped depressions; it frequently dries upon the surface and comes away in the form of scales mixed with epidermis. When his attention was directed to the subject about a year ago he was surprised at finding the proportion of cases in which he noticed these funnel-shaped depressions or fistulæ, or cysts of the coccygeal region, or dermoid cysts. It evidently represents an embryonal defect, and what this defect is he left the Fellows of the Association to suggest. There is a possibility that the tail of the embryo in undergoing involution leaves a portion of the skin highly endowed with embryonal latent cells, and that the skin developing more perfectly in the connective tissues about it, encapsulates, in part or in whole, this absorbing or involuting embryonal tail, so that in a coccygeal fistula we have an inverted tail. He has had four cases of coccygeal fistulæ containing masses of hairs in his practice up to the present time.

In trying to remove them the surgeon must remove the entire cyst-wall or fistula wall, because it consists so largely of embryonal tissue that recurrence takes place promptly following the operation unless this is done. The method of treatment with nitrate of silver and with caustics results only in temporary destruction of the inner layer, just as when surgeons try to destroy bronchial cysts or bronchial fistulæ, consequently recurrence takes place very promptly from the deeper layers of embryonal cells, the latent cells forming the structure again, so that they must be removed entirely. The author cited a case in point and exhibited microscopic slides.

HOUSE TO HOUSE OPERATING.

Dr. Edwin Ricketts of Cincinnati read this paper. The skilled abdominal and gynecological surgeon of today is a product of surgical evolution, to which no man ever gave such an impetus as the great and lamented Mr. Lawson Tait. From him we have learned that the best results depend upon simplicity, thoroughness, rapidity, and rigid cleanliness; that his best work was done in house to house operating.

The advantages are many, and, briefly, are as follows: (1) The greater ability of the general practitioner to attend to the after-treatment, assisted by a competent nurse, the telegraph, and telephone. (2) The absence

of the mental dread of the patient to go into an institution, and the risk therein entailed, a condition by no means to be underestimated. (3) Iron bedsteads and improved household furniture are rapidly finding their way into country homes. (4) God's pure air, and undeniably less liability to infection.

DR. WALTER B. DORSETT of St. Louis said that the word simplicity in surgical work carries with it a great weight. The greatest men are known by their simple way of expressing themselves; and the greatest surgeons are known by their simple way of operating. There are many points that should not be overlooked in regard to the advisability of isolating patients from house to house. In the first place, the surgeon could not maintain the same discipline in a private house that he does in a hospital, whether there be a trained nurse or not, because the friends and relatives of patients are constantly coming in, they carry with them bacteria, and they have a certain amount of influence over the patient. The nervous system of the patient is more or less disturbed, and the recovery in a great measure is retarded. In hospitals a great many things are done that should not be done. Cleansing the hands by different methods is entirely unnecessary; green soap and plenty of it and good hot water are all that is necessary.

DR. J. HENRY CARSTENS regretted that the paper had been read, because he believes that its teachings are wrong and vicious. A great many general practitioners after reading the paper would laugh at aseptic surgery, as well as antiseptic surgery, and they would say there is no use in trying to practise it. When it comes to operating patients do far better in a hospital than at their private homes. A cervix operation or a perineal operation might be done at a private home, but when it comes to doing major operations it is far better to have patients in a hospital, where the surgeon has all the facilities for operating, etc.

DR. WILLIAM H. HUMISTON thought if Dr. Ricketts was taken seriously it would be a backward step of fifteen years. He could not believe that the essayist was serious in all the points he had made. Any one who has seen Tait operate knows that he was the perfection of cleanliness. Bantock was likewise one of the cleanest operators.

DR. WILLIS G. MACDONALD of Albany said that if our present system of operative surgery is correct, if it is based upon the destruction, or better, the evidence of micro-organisms, then the most painstaking technic which can be devised should be followed. He must not dispute the fact that the essayist could operate in almost any private house, but there was no likelihood of his having sterilized water to use about his patient, or about his hands, in any part of the building. In the State of New York people are beginning to appreciate what a good hospital really means; they appreciate what a good training-school for nurses means; they appreciate that they can be made much more comfortable and the chances of recovery are immeasurably increased by going to hospitals instead of remaining at their homes to be operated on.

DR. ROBERT T. MORRIS said the matter had to be settled by statistics after all. The only statistics which he had in mind, were that he had lost eleven appendicitis patients; two of these died in hospital, and nine in house operations. The operations done in hospitals are certainly more than five times as many as those done at private homes

PRIMARY SCLEROSIS OF THE OVARY.

A paper on this subject was read by DR. WILLIAM H. HUMISTON of Cleveland, Ohio. He said there are two distinct pathological conditions now classed as sclerosis of the ovaries, and universally believed to be due to inflammatory changes. There is a primary or non-inflammatory sclerosis, and a secondary or inflammatory fibrosis. These forms can be recognized both clinically and by microscopic examination. In the secondary degenerations is found (in a section taken from some portion of the ovary) a small, round-celled infiltration, or the connective-tissue elements in some of their various stages of development. Also, however advanced the stage of fibrosis may be, the numerical relation of nuclear to cellular elements in this variety is always greater than in the primary form. Thirdly, the microscopic appearances of the vascular system are also different. In the inflammatory group there is primarily a dilatation of the vessels with secondary contractions of their greatly thickened walls and a lessening of their lumen. In the primary group there is usually no thickening of the vessel walls; there is never any dilatation, and contraction occurs so early that one immediately notes the poor blood-supply, particularly to the periphery of the organ. In those cases of arteriosclerosis of the vessels within the broad ligament is usually found the condition extending to the vessels entering the ovary, not otherwise. Lastly, in the primary group the epithelial cells of the ovarian stroma are diminished in number and usually in size. In some sections they are hard to distinguish from the connective-tissue elements, and appear to be undergoing a process of reversion. These several microscopic differences are constant and decidedly marked.

The diagnosis should be based upon the result of palpation of the diseased organs. The cirrhotic ovary is smaller than the normal, is hard and inelastic, and usually deeply corrugated. A sclerocystic ovary is usually larger than the normal organ, and is distinctly globular rather than ovoid. The tunica albuginea is always greatly thickened and is firm and unyielding. The size of the organ is due to the enlarged follicles just beneath the tunica. The hilum first shows the corrugations.

The condition is non-inflammatory and without a history of infection and without signs of peritonitis. It occurs in early life, from puberty to thirty, with dysmenorrhea often since the first catamenia. Amenorrhea or delayed menstrual flow and intermenstrual dysmenorrheic pain, described by every patient as being alike in character and severity with the pains experienced during each catamenia, are constant. This latter symptom differentiates the origin of the dysmenorrhea, making it clearly ovarian rather than uterine in its causation, and in itself is of chief importance clinically.

DR. F. BLUME of Pittsburg, Pa., read a paper, entitled

INTESTINAL ADHESIONS IN SUPPURATIVE PELVIC DISEASE; THEIR SIGNIFICANCE AFTER VAGINAL HYSTEROSALPINGO-OOPHORECTOMY.

The author stated that the time has passed when a surgeon can say without jeopardizing his reputation that he operates exclusively by the abdominal or the vaginal route. Since the introduction of vaginal hysterectomy and the revival of vaginal incision and drainage, our views regarding the treatment of suppurative pelvic diseases have undergone remarkable modifications. We realize that there is no longer but one method of surgical treatment and that, in order to do justice to the patient, we must select that method best adapted to the case. He has seen many women, who, after abdominal section for pelvic suppuration, performed in this country and abroad, were invalids, and he has performed a secondary operation upon a number of them. He has not, however, been called upon to treat a woman upon whom vaginal hysterectomy was performed by another surgeon, nor has any of his patients required or sought treatment at the hands of other operators. His experience is in accordance with the observations of other writers and justifies the assertion that the results of vaginal hysterosalpingo-oophorectomy in suppurative pelvic disease are excellent, notwithstanding the supra-pelvic complications, and there is no class of cases which, as a whole, gives more satisfaction.

(To Be Continued.)

REVIEWS.

NERVOUS AND MENTAL DISEASES. By ARCHIBALD CHURCH, M.D., Professor of Neurology in the Northwestern University Medical School and in the Chicago Polyclinic, etc.; and FREDERICK PETERSON, M. D., Professor of Mental Diseases in the Woman's Medical College, New York. Illustrated. Philadelphia: W. B. Saunders, 1899.

IN spite of its bulky appearance, this work is not a wide departure from the general run of text-books. Indeed, we cannot but condemn the tendency of publishers to sacrifice the convenience of handling for impressiveness of form. If we accept this sacrifice, however, we must admit that this book is a very handsome publication. Excellence of typography, neatness of arrangement and judicious use of italicized words all bespeak praise. To these have been added a profusion of illustrations, which is the chief characteristic of the work, as a book. These illustrations, mostly photographic reproductions, were chosen with admirable judgment, for they are highly descriptive in themselves,

The work is in two distinct parts by separate authors. The division on nervous diseases, written by Dr. Church, occupies the greater portion. While it has been condensed into text-book form, it is, in its way, very thorough. Each chapter shows a careful study of recent literature and the latest pathological data are everywhere included. In the chapter on leptomeningitis and in the excellent, but brief, chapter on sinus-thrombosis, a more extended reference to bacteriological studies would have been a valuable improvement, even in a work of this character. On treatment, also, the text is quite up-to-date, as may be seen in the chapters on infectious and on paralytic forms of nervous disease.

With the exception of the very insufficient paragraph on erythromelalgia, the discussions of the more uncommon affections is ampler than in most text-books. They are nevertheless condensed. On the whole, Dr. Church's work exhibits an amplitude of detail and an accuracy of clinical description that will make it useful to a large number of practitioners, though it is rather too elaborate for students and not elaborate enough for neurologists.

Dr. Peterson's division on mental diseases, is also freely illustrated from very excellent photographs. In the chapter on the general etiology of insanity is reprinted, with a few changes, the author's article on "The Stigmata of Degeneration," from the *State Hospital Bulletin* of July, 1896.

Dr. Peterson's work is interesting in style but it presents no unusual feature and, indeed, hardly does him full credit. In the chapters on the special forms of insanity the following subdivision is employed: Mania, Melancholia, Circular Insanity, Epileptic Insanity, Dementia (primary and secondary); General Paresis, Paranoia, Idiocy, Imbecility, and Feeble-Mindedness. The usefulness of this classification is attested by its adaptability (with very slight amplification) to the needs of the New York State Hospitals for the Insane. The simplicity and elementary character of such an arrangement, however, at once precludes the work from usefulness to the alienist (for whom, be it said, Dr. Peterson did not profess to write it). Similarly the excellent chapter on idiocy deals for the most part with general considerations, the forms of idiocy being dismissed with scarcely more than their mere mention.

THERAPEUTIC HINTS.

For Uricacedemia.—

℞	Lithii citratis	gr. viii
	Ac. citrici	gr. iss
	Oleosacchar. citrici . . .	gr. iv.

M. To make one compressed pastille. Sig. One dissolved in water three times a day.—*Peters.*

For Periodic Neuralgia.—

℞	Quininæ valerianat. . . .	gr. xlv
	Extr. juniperi	q. s.

M. Ft. pil. No. XXX. Sig. Five to ten pills a day. —*Bouchardat.*

A Diaphoretic Powder.—

℞	Pulv. camphor.	gr. iss
	Pulv. opii	gr. ss
	Potassii nitrat.	gr. v
	Sacchar. alb.	ʒ ii.

M. Ft. pulv. Sig. To be taken in a hot drink at bedtime.—*v. Graefe.*

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ORIGINAL ARTICLES.

FURTHER OBSERVATIONS ON THE TREATMENT OF CONGENITAL DISLOCATION OF THE HIP.[1]

BY ROYAL WHITMAN, M.D.,
OF NEW YORK.

AN advocate of the positive treatment of congenital dislocation of the hip often finds himself placed at a disadvantage because of the misapprehension of its nature and its consequences; for the usual conception of the congenital displacement is that it is a form of loose joint which causes a limp, a deformity rather from the esthetic than from the practical standpoint. If, then, the atrophied and displaced muscles and the rudimentary articulation do not at once take on normal function, in other words, if the patient does not cease to limp, the treatment is likely to be classed as a failure. It is well, then, to state at the outset of the discussion, that a dislocation is always a dislocation, whatever may have been the cause.

In the traumatic displacement of childhood there is deformity, fixation, and shortening, and thus great immediate disability which gradually lessens as the displaced parts accommodate themselves to the new conditions. In the congenital form there is a progressive shortening, and usually deformity and limitation of motion, so that in adult life but for the history it would be impossible to distinguish between the two

As the displacement in the traumatic form is immediate and extreme, the time during which replacement is possible is limited to months. In the congenital form the displacement is at first slight, and it progresses slowly; therefore, the time limit may be extended to years.

In the traumatic dislocation the acetabulum is normal and the muscles are competent to resume their functions; thus perfect cure should follow prompt and effective treatment; but if the changes incident to delay make an extensive operation necessary in order to replace the femur, function is almost inevitably impaired. In the congenital form the acetabulum is undersized or misshaped, and the muscles have developed under abnormal conditions, so that perfect functional cure is often impossible.

[1] Read at the thirteenth annual meeting of the American Orthopedic Association, held at New York, May 31 and June 1 and 2, 1899.

The etiology of the traumatic displacement is evident, but that of congenital dislocation must always remain somewhat conjectural. The most reasonable theory, as applying to the majority of cases, is that of intra-uterine pressure upon the flexed thigh; and if, as Heusner's observations would seem to show, the capsule of the hip-joint is more lax and is weaker in the female than in the male, the disproportion between the sexes would be accounted for. If the displacement is present early in intra-uterine life the parts may be considerably distorted; but it is more probable that it occurs at a later period of development, and that at birth it is practically a subluxation; this becomes a complete displacement under the influence of muscular action, and it is confirmed and increased by functional use.

At birth, then, it may be assumed that in a large proportion of cases the replacement of a practically normal femur into an acetabulum of sufficient capacity to contain it would meet with but little resistance, and that if it could be retained for a time in that position development might proceed in a normal manner.

When the child begins to walk, or at a time when diagnosis should be made and when treatment should be begun, the resistance to replacement is not great provided the inlet through the contracted capsule is practicable, but the disproportion between the capacity of the acetabulum, which has meanwhile been deprived of its normal stimulus, and the head of the bone has increased. With each succeeding year at this period of rapid growth the effects of the abnormal use, shown by changes characteristic of strain and pressure upon the head and neck of the femur, the non-development of the acetabulum, the elongation and hypertrophy of the capsule, and the accommodative adaptation of the muscles become more marked, and thus the possibilities of successful treatment are progressively lessened.

That congenital dislocation of the hip is a serious and progressive deformity might be predicted simply from study of the anatomy of the displaced parts, but the fact may be demonstrated by comparing the symptoms and physical signs presented by children in early and in later childhood, for which the larger clinics offer abundant opportunity. From this point of view unilateral dorsal displacement of the hip may be considered somewhat as follows: As the

head of the femur is displaced upward and backward the pelvis is tilted downward and is rotated forward. As a result the lumbar lordosis is exaggerated, and the patient walks, as it were, sideways, one anterior superior spine being habitually in advance of the other. (Figs. 1 and 2.) The yielding capsule does not offer a secure resistance to the weight of the body; thus the limp of a short leg is increased by its elasticity, and by the insecurity of the muscular support, to the peculiar lunge that characterizes the congenital displacement. In early life the articulation is abnormally loose and motion

Fig. 1.

Case III. Showing the inclination of the body toward the shorter leg.

Fig. 2.

Case III. Before operation, showing the abnormal lordosis and rotation of the pelvis.

is practically unimpaired, but with advancing years the shortening is increased by a gradual ascent of the femur on the pelvis, and motion is restricted in extension and in abduction, and finally contractions appear corresponding to the habitual attitude. Even in childhood the relation of the pelvis to the femur has been one of flexion because of its abnormal inclination, and in the adolescent it will be found when the lumbar spine is forced upon the table that the displaced limb is permanently flexed from twenty to thirty degrees, that the range of abduction is very much restricted, and, in many instances, that the actual shortening of displacement, averaging at least two inches, is still further increased by the adduction of the limb. (Fig. 3.)

The earlier and more direct effects of the congenital displacement are the limp and insecurity of muscular support; thus the child is often easily fatigued, and the fatigue may be increased to discomfort on over-exertion. This discomfort is likely to become more noticeable as the weight of the body and the strain of use increase with advancing years. The effect of the strain and friction is very evident in the increased distortion of the displaced parts, as seen at operation on older children, and particularly in the museum specimens from the adult, which, indeed, may be so changed, atrophied, and worn away as to be almost unrecognizable.

In the progress of deformity there are doubtless periods of intermittence, as suggested by depressions in the pelvis worn out by the pressure of the head of the femur, and in certain cases in which over use has been avoided, and especially when palliative treatment by braces has been employed a rudimentary joint of sufficient resistance to hold the femur permanently and yet to allow free motion may be formed, but as a rule the stability that insures comparative comfort is accompanied by limitation of motion and by deformity.

I may anticipate a possible criticism by admitting that patients, in early childhood at least, do not usually complain of discomfort or weakness. This, taken in connection with the fact that the older patients do not often apply for treatment, might seem to be a very effective argument in favor of non-treatment were it not that the same assurance of comfort and ability may be obtained from children affected with almost any variety of chronic disability or deformity, even from those who are distorted by tuberculous disease of the hip or spine. Neither do adults of this class consult physicians except for the relief of actual suffering when the hope of cure has been abandoned. In fact, I think it may be stated that in orthopedic practice, at least, the direct testimony of the patient is of comparatively little value as compared with physical evidence because of the inability of one affected by chronic disability to appreciate the normal standard. This self-deception and unconscious mental and physical accommodation to disability are palliations on which we may count when cure is impossible, but which should not be allowed to deceive one or to excuse the neglect of any possible opportunity to straighten or to strengthen the human machine.

I have considered congenital displacement from the physical and anatomical standpoint and have compared it with the traumatic form in order to present

the subject in a tangible and practical shape, for, as it must be admitted that perfect functional cure is impossible in many instances, it is important that positive treatment should be regarded as a preventive as well as a curative procedure, to be judged, therefore, not by the immediate but by the final results.

It may seem, perhaps, that an elaborate argument is unnecessary to prove that a loose, ill-controlled joint, causing a lunging limp, friction, progressive shortening, contractions and disability is an important deformity and thus worthy of considerable sacrifice of time and labor if it might be ameliorated even, but the statements in the recent text-books and the discussions of societies that may be supposed to shape medical opinion show that the gravity of the disability is not appreciated, and that the shortcomings and the dangers of positive treatment are exaggerated. In fact, at the present time it is rather in spite of medical advice than because of it that the opportunity for treatment is afforded when the chances of cure are most favorable.

Taking all considerations into account, success in the treatment of congenital dislocation of the hip depends, first, upon the proper performance of the operation of replacement and upon the quality of the after-treatment; second, upon the age of the child and the acquired abnormalities of structure and function; and third, upon congenital malformations that are not amenable to correction. Practically speaking, there are at present but two accepted methods of treatment of congenital dislocation of the hip: first, forcible replacement and immediate use—the "functional weighting method" of Lorenz; second, the open operation of Hoffa, as modified by Lorenz.

The functional weighting method was suggested by the operative demonstration that an acetabulum of fair size is usually present in the normal position. If the head of the femur can be passed through the capsular ring and fixed in an attitude of extreme abduction in order to insure stability then the weight of the body forcing it against the rudimentary depression at every step will gradually enlarge its capacity and at the same time the displaced muscles will take on a more normal function. If, however, the replacement is not perfect, or if the opposing bones are not properly fixed in direct contact with one another for a sufficient time, cure by this means is impossible. Of the two, imperfect reposition is apparently the common cause of failure.

All the indications of successful reposition as enumerated by Lorenz, the shock and audible sound of apparent replacement, the fixation in the attitude of abduction, can be produced in almost any case in which the operation is suitable, yet the supposed reposition may be in reality a transposition of the head to the immediate vicinity of the acetabulum, where it lies apparently separated from its proper position by a fold of the capsule. Such cases simulate reposition so closely that only functional use or an examination by the Röntgen-rays will demonstrate the failure, and I am sure that many of the apparent successes that have been reported were in reality of this nature. In fact, I have come to regard it as a preliminary and tentative procedure which, in a large proportion of selected cases even must be supplemented by the open operation. In this sense the treatment is most useful, and it has very great advantages over the older method as the primary operation. For example, it is free from danger and there is no necessity for hospital treatment or even for confinement to bed. Thus the consent of the parents can be readily obtained as soon as the disability is discovered, while as a rule there is a long delay before the open operation is permitted. If the operation

Fig. 3.

Congenital dislocation in an adolescent, illustrating the flexion-contraction in a well-marked case.

is successful there need be but little after-treatment, which is an essential part of the open method, because the muscles regain their function in great part while the limb is supported by the plaster bandage, and there are no contractions or other deformities to be feared. If the operation is unsuccessful it will have served a useful purpose, because the compensatory deformities will have been lessened by the supporting plaster spica, the contractions will have been overcome, and the secondary operation may be more quickly and easily performed when the head of the bone lies in the anterior position. Even if further treatment is abandoned at this stage marked improvement will have been accomplished because the support of the body is more nearly in the normal position, because the shortening has been much reduced, and because the resistance of the tissues about the anterior superior spine checks in great degree the progress of the deformity.

My own experience in this treatment is as follows: I have operated 32 times on 22 cases in 21 patients, in 7 instances two, and in 2 three attempts at reposition having been made on the same patient. The first operation was performed in July, 1896, the last in May, 1899. In 19 instances the displacement was unilateral, in 2 bilateral, in 1 of these cases one, and in the other both hips having been treated. Nineteen of the 20 patients were females.

The patients may be divided into groups according to age: (1) Two years or less, 7 patients, 8 cases. Two are cured and 4 are under treatment, the present indications being favorable. In one case the treatment failed and the open operation was subsequently performed. (2) Between the ages of two and four years, 9. One of these cannot be traced. In 8 the head of the bone was transposed; in 4 of these cases further treatment had been declined and in 4 the open operation was subsequently performed. (3) Between four and nine, 5. One is cured, one under treatment. On 2 the open operation was subsequently performed and in 1 case treatment was discontinued.

The successful cases may be summarized briefly as follows:

CASE I.—*Female, aged nineteen months. Displacement of the left hip. Operation, April 19, 1897. All dressings removed October 11, 1897. No trace of disability remains. (Fig. 4.)

CASE II.—* Female, aged eighteen months. Displacement of the left hip. Operation November 15, 1897. Dressings removed August 3, 1898. A complete cure.

CASE III.—* Female, aged five years. Operation May 20, 1897. A plaster spica bandage was worn until March, 1898, a simple jointed brace with a pelvic girdle until recently. A complete cure. (Illustrated by Figs 1, 2, 6 and 7.)

It will be noticed that a large proportion of these patients were, as regards age, of the distinctly favorably type, yet but 20 per cent. were cured by this method. For this reason I am inclined to look upon it as a preliminary or preparatory treatment in which the prospect of success is dubious except in children at a very early age. I should be tempted to make this statement stronger but for the fact that the third cure was in a child of five years who suffered from a most pronounced and disabling displacement. The case had been under observation for three years before the consent of the parents to

FIG. 4.

Case I. Two years after operation.

treatment could be obtained. At that time the leg was 1¾ inches shorter than its fellow, and the child could hardly walk a block without fatigue and discomfort. She is now as strong as other children and shows no trace of deformity other than a slight atrophy of the hip muscles and a slight reminiscence of the former spinal deviation.

As far as the details of the operation are concerned, the directions of Lorenz have been carefully followed except that manual traction has been used in place of instrumental at the time of operation. This is to be preferred in spite of the labor involved

* Cases marked * were presented for inspection at the meeting.

because the force and pressure can be better regulated. In the treatment of older subjects preliminary traction in bed is preferable to either. When the shortening has been entirely overcome, manually or otherwise, the phenomena of apparent reposition can be produced with ease. In my earlier experience, looking upon these as indicative of actual replacement I supposed the failures to be caused by redisplacement favored by an anterior deviation of the neck of the femur. On this account the short spica was discarded in favor of a bandage including the foot in order to rotate the entire leg inward; but the results were no better than before and it seems more probable that the cause of non-success is the failure to force the head of the bone fairly through the capsular ring. If, therefore, the operation has been properly performed, and if the limb has been retained in proper position in the after

Fig. 5.

Case II. Eighteen months after operation.

treatment, there is little hope of success in repeating the procedure.

At the present time I am very careful to force the head of the bone into its proper position midway between the anterior superior spine and the symphysis, directly below the interior spine of the ilium. In this position it is fixed by a short spica in extreme abduction and in as much inversion as the form of the bandage will assure. There is, as a rule,

Fig. 6

Case III. After operation. Compare with Fig. 1.

Fig. 7.

Case III. Two years after operation. Compare with Fig. 2.

but slight discomfort even after prolonged manipulation and no local signs other than occasional swelling and discoloration about the abductor region and the genitals. The possibility of injury to the epiphysis or fracture of the femur during attempted replacement suggests itself, but of this there appears to be little danger. The cartilage of the head is subjected to some pressure and in several of the cases in which the attempt at replacement had been repeated subsequent inspection at the operation showed minute hemorrage spots beneath the cartilage, and in one case slight irregularity, although the surface was not abraided.

The plaster bandages are renewed at intervals of from six to eight weeks according to their condition. At the first change of dressing it is often impossible to distinguish between a reposition and a transposition, as the measurements of the legs are equal and as one hesitates to move the limb for fear of displacing it. At the second dressing, however, the head of the transposed bone may be distinguished

below the anterior superior spine to the outside of its normal position. Even when reposition is complete success is assured only after prolonged functional use, not even the evidence of a Röntgen picture being proof that the new joint is stable.

The plaster spica is continued for from six to eight months and is then replaced by a flannel bandage or by a simple brace, as used after the open operation. The functional result in successful cases is practically perfect. This is explained by the age of the patients on whom the procedure is likely to succeed because the abnormalities in such cases must be slight and because there is no traumatism inflicted as in the open method.

My own experience leads me to consider the functional weighting operation of Lorenz as quite inadequate as a final treatment for congenital dislocation of the hip. The chances of success are excellent in very young subjects, but they diminish rapidly with age and in older patients it is usually merely a preparation for the open operation.

The Open Operation.—As has been stated, the open operation should be supplementary to forcible correction, yet of the nineteen open operations that I have performed but seven were preceded by the simple replacement, for the reason that the patients were inmates of the hospital and a hospital is manifestly an improper place for a method of treatment that requires many months for its completion.

The manner of operation has been slightly modified from that of Lorenz. The joint is opened by a lateral incision just below and one inch to the outer side of the anterior superior spine. This exposes the fascia, through which the line of junction between the tensor vaginæ femoris and the gluteus medius muscles may be seen. When these are separated from one another the capsule of the joint is at once exposed, often covered in part by the fibers of the iliopsoas muscle. The capsule is opened by an incision in the line of the neck of the femur and through this the head of the bone may be exposed after the division of the ligamentum teres, if it be present. The finger may then be passed through the opening downward and forward to the acetabulum and by its side a strong cervix dilator is inserted with which the capsule is thoroughly stretched, especially the anterior layer which covers the acetabulum. The acetabulum is excavated to the extent that seems desirable by means of a sharp spoon, the bayonet-shaped instrument being the most convenient, after which the head of the bone is replaced. The wound is closed, except for a small gauze drain inclosed in rubber tissue, and a plaster-of-Paris spica bandage including the foot is applied with the leg in an attitude of moderate abduction, complete extension, and slight inward rotation. There is, as a rule, little difficulty in the reposition when the primary operation of forcible correction has been performed or when the accommodative contractions have been thoroughly overcome by preliminary or immediate traction, but in older patients a more extensive division of the capsule may be required. Ordinarily the operation may be performed in less than half an hour, there is little shock, and the subsequent discomfort is slight. As a rule, the patients remain in bed but a week, and are often about in a chair in a few days. In fact, under proper conditions the operation need occasion no particular anxiety. The dangers and difficulties are caused most often by neglect to overcome completely the contractions before the joint is opened so that the long-continued and violent manipulation necessary to accomplish replacement exposes the patient to infection.

The long plaster spica bandage is exchanged for one reaching to the knee in about four weeks and the child is then allowed to walk about. After a month or two the bandage may be replaced with advantage by a light jointed brace attached to the shoe and to a pelvic band. Such an apparatus serves to steady the weak part, to hold the leg in the proper attitude, and it will allow for pressure over the trochanter if desirable.

In many instances the motion which, when the plaster bandage is removed is free and painless, will rapidly become restricted until the leg may be practically fixed, in part by muscular spasm, in part by voluntary effort, and in part doubtless by the changes incident to the repair of the traumatism of the operation, since it may be assumed that the head of the bone lies for a time in contact with the granulation tissue that covers the floor of the new acetabulum and with the wounded capsule.

In certain cases, especially in the younger class of patients, the limitation of motion is slight and transitory, but in the older subjects, particularly when the head of the bone has been completely imbedded in an excavated acetabulum, it may be obstinate and attended by a marked tendency toward deformity. In such cases, it may be noted, there is as a rule no pain or discomfort except on forcible manipulation. In view of the comparative freedom of motion when the first dressing was removed, in several cases I prolonged this preliminary fixation in the plaster bandage without, however, improving the result. It is possible, of course, that if the joint were treated as one would treat disease of the hip-joint, by traction and by removal of weight, this restriction might be lessened, but, on the other hand, it is probable that the pressure and friction of the

head of the femur is useful in preserving and perfecting the new acetabulum. I am, therefore, inclined to believe that rest and fixation for a time estimated to be sufficient for the repair of the injured part, combined with early massage, and if feasible with the hot-air treatment, would hasten the absorption of the products of repair and lessen the restriction of motion, but in any event the tendency toward flexion of the limb must be resisted by frequent manual stretching in the direction of extension, and if necessary by traction at night or even by splinting; for if complete extension is preserved a sufficient range of flexion for all practical purposes is assured. This careful supervision more than all else makes the distinction between a good and bad result in the difficult cases. In any event, restriction of motion is of small importance compared with the security, the improvement in the gait, and the assurance that the progress of the deformity is checked. This theoretical conclusion has been confirmed recently by the testimony of a mother of three children, each having congenital dislocation of the left hip. The eldest, a girl of fourteen, has nearly three inches of shortening with its attendant limp. The second child,* seven years of age, operated upon last autumn, has at the present time not more than ten degrees of voluntary motion at the hip, but the legs are of equal length, and the limp is so slight that the mother proposes to have the third* and youngest child treated as soon as the opportunity offers because the improvement after the operation has been so great even at this stage of the treatment.

The statement that limitation of motion is relatively of slight importance does not apply to the bilateral displacement since even moderate restriction of motion on both sides would interfere very seriously with the ability of the patient, while fixation would be practically disabling. For this reason the problem of treatment is so much more difficult in this class.

In view of the fact that the traumatism of the open operation makes the after-treatment so essential, requiring constant supervision as compared with that by forcible correction, a modified operation suggested itself. On the supposition that non success in the Lorenz or non-cutting operation depends upon the failure to force the head of the bone through the contracted opening in the capsule, one may by the open operation simply cut and dilate the capsule, and then replace the femur without excavating the acetabulum. In two cases, finding the acetabulum of fair size, I employed this method, but in one case there was subsequent reluxation and in the other the head of the bone is not completely contained within the cavity, so that if the method is adopted one should carry out the further steps of the Lorenz treatment by prolonged fixation in the abducted position in order that the acetabulum may be enlarged by the natural means. This intermediate operation seems worthy of further trial.

In another group of cases the restriction of motion usual after operation is absent. This is explained by the fact that the head of the femur is not completely embedded in the acetabulum, but can be felt somewhat more distinctly than is normal, or there may be even an anterior subluxation. This subluxation is favored by the anterior twist of the neck, by the absence of the cotyloid ligament, and by an insufficient depth of the acetabulum. The joint appears to be secure and the shortening of the limb is overcome, but the muscular control of the limb is somewhat imperfect and the limp is prolonged. The most frequent cause of this subluxation is, as has been stated, the anterior deviation of the neck of the bone, which is especially marked in the primary anterior dislocations. This is shown by the fact that in order to place the head completely within the acetabulum the limb must be rotated inward until the inner border of the foot lies parallel with the table. In two cases in which the subluxation appeared after the healing of the wound I divided the shaft of the femur below the trochanter and rotated the distal fragment outward. This corrected the deformity in part, but it was evident from the difficulty experienced in the attempt to hold the upper fragment backward that the osteotomy should either be performed as a preliminary operation or else the limb should be rotated inward at the time of replacement and retained in that position until the parts are sufficiently contracted to hold it within the acetabulum, after which the secondary osteotomy, which would allow the limb to be replaced in its proper relation, might be more easily performed. At the same time, slight abduction of the lower fragment would remedy a depression of the neck of the bone if it were present.

It must be borne in mind, however, that an anterior deviation of the neck apparently prevents the adhesions that cause ankylosis; thus the result in this class of cases would be considered much better than when motion is so restricted as to interfere with function.

Of the 19 open operations that represent my experience in this method of treatment, 15 were performed during the present year so that the time is too short for a report on final functional results. Fifteen of the patients were females, 1 was a male. Ten were cases of unilateral displacement, 5 were bilateral. Of the 5 bilateral cases 3 were operated

upon on both sides, and 2 on one side, making a total of 19 operations. Four of the patients were between seven and nine years of age, 1 was less than three, and the remainder were from four to six years old. In 12 of the 19 cases the ligamentum teres was present, usually attenuated, never hypertrophied. In the youngest child it was absent, in the oldest it was present on both sides. This, it may be noted, is a very much larger proportion than is stated by Lorenz. In all the cases an acetabulum could be distinguished. In 17 cases the head of the bone was nearly normal, usually flattened somewhat on its posterior and inferior surfaces; in 1 case it was markedly deformed, flattened from before backward to an almond-like shape. The direction of the neck is somewhat difficult to determine at the time of operation but there seems to be often an anterior deviation most marked when the dislocation is primarily anterior. In many instances the neck appears to be shortened; in others, it appears to be depressed somewhat (coxa vara) but this again is difficult to determine because the part is so small.

All of the operations were performed at the Hospital for Ruptured and Crippled. There was no death. There was no operative infection of the wound. In one case, the last in order, suppuration appeared during the course of an acute pneumonia, the bacteriologic examination showing that the Fraenkel bacillus was the cause of the infection. This was the only case in which the condition of the patient caused anxiety.

My own impressions of the open operation are that it is not likely to be displaced in the treatment of congenital dislocation. Under proper conditions it is practically free from danger and easy of performance. A certain amount of restriction of motion, even approaching ankylosis, temporary or permanent, may be anticipated when the acetabulum has been excavated and when the head of the bone is contained within it. If motion continues free it will be explained in most instances by a slight anterior subluxation. The points in the treatment that are worthy of further attention are the intermediate operation of replacement without excavation by incising and stretching the capsule, osteotomy for the purpose of overcoming the deviation of the neck, and a modification of after-treatment by which the tendency to restriction to motion may be lessened.

The results of the treatment of congenital dislocation of the hip may be summarized as follows: Forty-one cases have been treated, 22 by the functional method of Lorenz, and 19 by the open operation. On 7 patients both operations were performed. On 7 patients the forcible operation has been performed within so short a time that the results cannot be determined. In 5 instances further treatment was refused. In all of these a transposition of the head of the femur from the posterior to the anterior position was effected so that an improvement may be claimed. Thus there remain 22 cases, or 19 patients, on which a report may be made. In 14 the displacement was unilateral, in 5 bilateral. Of the 14 unilateral cases, 9 may be said to have received the treatment of selection, that is, forcible correction was first performed amd followed when unsuccessful by the open operation. Of this group, in 4* the result is practically a perfect cure, 3 by the simple,

FIG. 8

A successful result after the open operation. (Case IV.) Shows a useful form of brace to be used in the after-treatment.

1 by the combined treatment, or forty-four per cent. (Fig. 8.)

In 2 cases* the result is extremely good, but slight limp remaining; twenty-two per cent. (Fig. 9.) In 2* the result is good; twenty-two per cent. In 1 of these the dislocation was primarily anterior and a subsequent osteotomy was required to correct in part the anterior twist of the neck. In this case the joint is firm and motion is free, but a slight anterior subluxation remains. In the other case there is perfect implantation of the head, but marked restriction of motion. In one case the distortion of the head and neck of the bone was so marked that cure was

evidently impossible. The function has been improved, but the articulation is not as yet firm so that the case is classed simply as improved.

Five patients were operated upon directly by the open method. This group was peculiar in that two of the dislocations were primarily anterior; the treatment was also somewhat experimental, in that in two instances the acetabulum was not excavated In

Fig. 9.

Open operation. (Case XVI.) Eight months after operation.

3 cases the joint is stable and the motion is practically unrestrained; in 1 of these the anterior twist of the neck was remedied in part by an osteotomy: in all a moderate limp remains. These are classed as good results.

In 1 case in which the acetabulum was not excavated there was subsequent reluxation. The patient was re-admitted to the hospital and my successor in the service, Dr. Gibney, replaced the femur by the forcible method and later performed an osteotomy for the purpose of overcoming the deformity of the neck. The record states that the legs were of equal length when she was discharged. In the case in which secondary suppuration occurred* the patient walks with but slight limp, the leg being fixed in an attitude of slight flexion.

The bilateral dislocations have been placed in a group by themselves because the treatment is so difficult, difficult, of course, not in technic, but as regards the individual. In the unilateral displacement the patient has a normal leg to make up for the weakness and insecurity of the other; thus even ankylosis on the operated side would cause comparatively slight disability. But in the bilateral form, at best, the muscles must be inadequate for perfect function for some time after replacement, while even moderate restriction of motion causes considerable disability.

Six patients with bilateral displacement have been treated. One is still in the plaster bandages after the forcible replacement, performed simultaneously on both joints*; the others have been treated by the open operation. In two instances but one hip was treated. In one of these the open operation had already been performed by another surgeon without

Fig. 10.

(Case XVIII.) Bilateral dislocation six months after replacement by the open method. Illustrates the change in the contour of the body.

success. The result in this case is improvement. The articulation is firm and the motion is fair. In the second case, a child eight years of age, the femur is firmly embedded in the acetabulum, but motion is restricted to a range of 10 degrees. The other joint is now under treatment by forcible correction performed by Dr. Gibney.

Three patients were operated upon on both sides. In

one case the result is surprisingly good,* for although the operation was performed but six months ago the deformities of the body have disappeared and the function of the joints is good and bids fair to be perfect. (Fig. 10.)

In the second case the operative result is good but function is imperfect, partly because of the weakness of the muscles and partly because of restriction of motion on the right side. The third case was in a child, eight years of age, and there was an interval of a year between the operations on the two sides. In this case there is but slight motion in either hip and in addition some flexion deformity on the right side so that the functional result is bad. It should be stated that none of these patients has received special care or training other than that provided by the hospital or carried out by the parents. Of the entire list of cases, 34 in number, but 2 of the patients are, I think, at the present time the worse for treatment; all the others have been benefited to a greater or less degree and it may be assumed that the improvement will be increased with the lapse of time.

The object of this paper is to establish the proposition that congenital dislocation of the hip is a serious and progressive deformity for which positive treatment is indicated at the earliest possible opportunity. This treatment is tedious and difficult and the results must be often imperfect, sometimes because of congenital defects, sometimes because of long delay and sometimes because of improper surgical methods, but fairly judged on the evidence presented, the question of the advisability of treatment as opposed to palliation or neglect may be regarded as definitely decided. In support of this proposition I have presented only my own experience because the place of meeting allows me to illustrate it by the patients themselves and thus to direct the discussion toward the question at issue, which is not of the principles of treatment but simply of methods and details by which results may be further improved.

SANITARIA IN THE TREATMENT OF TUBERCULOSIS.[1]

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It is most gratifying to note the marked change of opinion that has come in late years among the medical profession in regard to the care of tubercular patients in institutions specially adapted to the purpose. Ten years ago the attitude of most medical men in this country was one of indifference even when not of actual hostility to the idea of segregation of consumptive patients. To-day I think it safe to say that the great majority of the medical profession cordially endorse the idea, the very few exceptions being composed apparently of those who either have not been willing to accept the experience of competent observers or who by habit of mind exaggerate the inevitable imperfections of any human scheme of action and so blind themselves to its manifold advantages.

It is interesting in the study of the history of medicine to read of the experience of the great Brehmer, the father of the idea of sanitarium treatment of phthisical subjects. Forty or more years ago he conceived the idea of establishing a small hospital for consumptives in a mountain village, Görbersdorf in Silesia, where he himself had regained his health. Although ridiculed and scoffed at by members of his own profession, strange as it may seem, he persisted with unflagging energy, and from the nucleus of a small house gradually arose the great institution now known over the medical world, a lasting monument to a noble man. His pupil, Dettweiler, now leads the profession in this special branch of medicine at his great sanitarium at Falkenstein near Frankfort. Numerous smaller institutions have followed the examples of Görbersdorf and Falkenstein not only in Germany but in Austria, France, and Great Britain. It is but necessary to refer to writers in this country to learn interesting details of these various institutions, more especially to the various articles by Knopf,[1] Otis,[2] Solly,[3] Anders,[4] Trudeau,[5] Von Ruck,[6] and others.

In America we have been slow in following the example of the European countries, but the persistent effort of those most interested in the subject has already borne good fruit, and the people of the United States and Canada are beginning to show their characteristic energy by rapidly adopting methods hitherto neglected for combating the ravages of tuberculosis. The reason for this change would seem to be twofold, and I believe it to be due as much to the patient and convincing work of men like E. L. Trudeau in proving to the profession and the laity that patients with incipient phthisis can be cured in sanitaria, as to the growth of the idea of the

[1] Read at the annual meeting of the Ontario Medical Association, held at Toronto, Canada, June 13, 1899.

[1] S. A. Knopf, "Les Sanatoria," etc. Thèse pour le Doctorat. Paris, 1895.

[2] E. O. Otis, "Hospitals and Sanatoria for Consumptives Abroad," *Boston Med. and Surg. Jour.*, March 24 and April 7, 1898.

[3] S. E. Solly, "Medical Climatology." Lea Bros. & Co., 1898.

[4] J. M. Anders, "Sanatoria and Special Hospitals," etc., *Therapeutic Gazette*, December 15, 1898.

[5] E. L. Trudeau, "Sanatoria for the Treatment of Incipient Tuberculosis," *Medical Record*, February 13, 1897.

[6] Karl von Ruck, "Sanatoria for the Treatment of Incipient Tuberculosis," *Medical Record*, February 13, 1897.

undoubted communicability of phthisis about which so much has been written of late years.

Trudeau and the Adirondack Sanitarium need no introduction to you, but to him more than any one else in this country we owe the impetus which has been given to the community at large toward the establishment not only of private but of public institutions for the treatment and cure of consumptives The name of Alfred L. Loomis should never be forgotten in this connection, for it was largely due to his encouragement and energetic work that the sanitaria in the Adirondacks, and later at Liberty, N. Y., were established. Karl von Ruck, at the Winyah Sanitarium at Asheville, N. C.; A. C. Klebs, formerly at Citronelle, Ala.; and, within the last three years, Stubbert, at the Loomis Sanitarium at Liberty—all have had their full share in bringing about the desired result.

The State of Massachusetts has been the first in America, I feel proud to say, to establish a sanitarium for the treatment of tuberculous patients, chiefly consumptives. The institution stands in or near one of our central villages, Rutland, at an altitude of 1200 feet. Protected on the north and west by woodland, it is placed on a gravelly hillside facing the south, the character of the soil and its position favoring excellent drainage. The water-supply comes from an adjacent lake fed by numerous springs. The hospital contains about 180 beds, most of them in open wards which radiate toward the south, like the fingers of the hand, from a semicircular corridor which connects the various parts of the building. It is the aim of the trustees of the hospital to keep it for the treatment of really incipient cases of tubercular disease when there is hope of cure or at least of such amelioration of symptoms that patients may become useful members of society again. It is not intended as a shelter for the hopelessly sick, nor is it to be regarded in any way as a pauper institution. A small price is asked for board, and the class of patients received is chiefly composed of refined people of very limited means. The institution was opened early in October, 1898, and necessarily it is not in the province of this paper to make absolute or positive statements as to what can be done in the future, but I can at least state my beliefs, resulting from my experience thus far at Rutland, and based largely upon results obtained in the last eight years at a very small but somewhat similar institution, the Sharon Sanitarium at Sharon, Mass.

It has been my privilege to be one of the attending physicians at Rutland, and I can truly say that I have been surprised and delighted at much that has been accomplished thus far, not merely in the marked beneficial effect upon the physical condition of the patients, but in the educational influence of the hygienic methods employed there, a fact which I believe to be of inestimable value for the future, and one not yet fully appreciated by those who have had no experience in sanitaria.

In the beginning, serious doubts were felt as to whether we could persuade people of moderate means but of refined habits to enter a hospital in which personal privacy in an open ward is all but impossible. The fear has long since been dispelled, and it has been a surprising and inspiring experience to see the almost universal philosophy and good cheer which prevail under circumstances which might easily be considered depressing. A spirit of good fellowship among the patients is marked, and a sort of good-humored rivalry exists in their endeavors to submit themselves to the methods adopted for their welfare. Open windows even in cold weather are insisted upon as an essential feature of the treatment, and the patients who in a few days do not become not only accustomed to it but even like it are the exception. So marked has this been that in more than one instance patients who have returned to their homes contrary to advice have begged to be taken back because they "could not breathe" in their close houses. Open-air treatment, in short, in conjunction with judicious exercise and plain but nourishing food is the chief feature of the methods employed at Rutland, and the results thus far obtained are dependent upon hygienic and dietetic measures rather that any specific medicinal treatment. Further experience may justify us in trying other methods, but when the results at the end of the year are summarized I can but feel that no matter what other methods are tried, hygiene takes the first place in all our attempts to arrest pulmonary disease.

Having now spoken of the work undertaken by the State, allow me to give you a brief statement of work in the same direction at the Sharon Sanitarium for Pulmonary Diseases, at Sharon, Mass., about eighteen miles from Boston. This institution, still very small both from necessity and purpose, has one feature not common to most sanitaria for the treatment of pulmonary disease, *viz.*, its proximity to a large city near the sea, its location in the harsh, damp, New England climate, and at an altitude of about 350 feet only. It was built in pursuance of an idea long held by my father, Henry I. Bowditch, and later by myself, that by residence in a properly conducted sanitarium near the patients' homes, not far from Boston, much more could be done to arrest pulmonary disease than hitherto, the chief factor being supervision of the patient at the critical

period of his disease when attention to details will make all the difference between a subsequent life of renewed health, and one, to say the least, of invalidism.

Through the kindness and generosity of wealthy people in Boston the Sharon Sanitarium was built in 1891 for the treatment of incipient phthisis arising in women of limited means who could not for various reasons seek distant health-resorts. In this institution each patient has her own special bedroom, there being no open ward, and the same insistence upon fresh air and good food is made as in other sanitaria. The results of my work there during the past eight years I have already given to the medical profession in two papers published in 1894 and 1896, respectively.[1] This spring, in a paper before the American Climatological Association, at its meeting in New York, I gave the subsequent histories of arrested cases of phthisis treated at the sanitarium.[2] From these results I think I am justified in saying that we were not misled in our belief that much more can be accomplished by such methods than by attempting to treat the patients in their homes except in rare cases, and that this can be done, moreover, comparatively near home in a large percentage of cases.

Of the phthisical patients admitted to the Sharon Sanitarium about thirty per cent. have been discharged as "arrested cases." Under the term "arrested" I have classed all those in which cough, expectoration, and fever have ceased with more or less marked amelioration of general symptoms even when abnormal physical signs have persisted, the condition of absolute return to normal conditions, so far as physical signs are concerned in proven cases of tubercular disease, being decidedly the exception in my experience. I have never used the term "cured" believing that the term is unjustifiable until, after the lapse of years, no return of the symptoms is noted. In many of these cases, however, the term now would be permitted inasmuch as a period of more than five years has elapsed without any apparent return of the disease. In my last paper, just referred to, the following results were given: Of the thirty-four patients discharged as "arrested" cases I made the following classification: Class I. Those who have died since leaving Sharon, 6. Class II. Those who have not been heard from lately, 1. Class III. Those who are living, at work, and apparently well as far as pulmonary symptoms are concerned, the period of time since discharge varying from seven years to nearly one year, 24. Class IV. Those who have had a slight return of their pulmonary symptoms, but are still active and from outward appearances, well, 3. The cause of death in these cases may be attributed to one or more of the following conditions: (*a*) Advanced condition of the disease at entrance which under ordinary conditions makes a return of the symptoms probable; (*b*) intercurrence of some other disease without a return of the pulmonary symptoms; (*c*) too early departure from the sanitarium and return, against urgent advice, to the unhygienic conditions under which the trouble arose.

Most of these arrested cases, when studied in detail, are vivid object lessons of the results of care, or the contrary, in the after treatment of such patients. The importance of urgent advice as to the method of life to be carried out by the patient after discharge can not be overestimated, avoidance of the conditions under which the trouble first arose being essential.

As to methods of treatment at the Sharon Sanitarium let me add a few words: Experiments have been made with a few of the so-called "specifics" for pulmonary disease, but my experience thus far has been that they were either absolutely negative in result or possibly slightly beneficial for some of the symptoms of the disease. The inhalation of oil of peppermint has proved at times beneficial for the cough, seemingly, I have thought, more from the anesthetic action upon an irritable throat than from any other cause; otherwise the inhalation or ingestion of the essential oils has been of negative value. Creosote I have found to be of benefit as an aid to digestion, but I have not been able to convince myself of its efficacy in other directions. Antiphthisine per rectum, as at first recommended, proved absolutely negative in my hands. Although tuberculin has been resorted to in another hospital in the earlier portion of its history, I have never employed it therapeutically since. As to the various forms of serum-treatment for tuberculosis, I have thus far refrained from their use at the sanitarium, preferring to test the result of hygienic methods but prepared to resort to other additional means of cure when convinced of their efficacy.

In short, as before stated, abundance of fresh air, judicious exercise in the form of pulmonary gymnastics largely accomplished by means of a pneumatic cabinet, as well as general calisthenics, and the ingestion of plenty of simple, nutritious food, form the base of whatever has been accomplished at the Sharon Sanitarium. Residence in the country, if possible, I regard as one of the most important features of after treatment and when the circumstances

[1] "Three years' Experience with Sanitarium Treatment," etc., *Boston Med. and Surg. Jour.*, July 12 and 19, 1894. "The Treatment of Phthisis in Sanitaria Near Our Homes," *Trans. Mass. Medical Society*, 1896.

[2] "Subsequent Histories of Arrested Cases of Phthisis Treated at the Sharon Sanitarium."

of the patient preclude this, the insistence upon regular exercise and proper ventilation of the home will oftentimes accomplish the desired result.

What I wish to emphasize especially is this fact derived from my experience at Sharon: not only are sanitaria at a considerable distance from our great cities and at comparatively high altitudes necessary and of infinite value but, if the results at Sharon mean anything, such establishments should also be *near all of our great cities and towns* in properly selected sites, for the benefit of those who cannot for any reason go far away. It is for this idea that I wish to specially plead here as I have elsewhere before.

You are to be congratulated upon the recent establishment of the beautiful new sanitarium at Muskoka and I trust it may be the beginning of a series of similar institutions. At the same time within short distances of your large cities I believe you can also establish sanitaria which will accomplish similar results.

Hitherto we have spoken only of sanitaria meant for the cure of incipient phthisis, but equally important and necessary are hospitals for the hopelessly ill within easy access even if not within the immediate confines of our cities. So much has been written upon this point of late that it would seem hardly necessary to do more than emphasize the manifold advantages of such institutions. By the removal of hopelessly ill consumptives from our overcrowded, unhygienic poor districts we not only take away probable sources of infection but place them where proper care may be given, at the same time relieving the families and friends of burdens which they can ill afford to bear.

If we can convince our legislators and our private citizens of the incalculable value of such measures we shall have done much, as another generation I believe will show, toward diminishing the inroads of the great scourge of the human race. Surely that is an incentive to work.

VAGINAL CELIOTOMY: ITS SCOPE AND LIMITATIONS.[1]

By J. RIDDLE GOFFE, M.D.,
of New York;
Professor of Gynecology in the New York Polyclinic Medical School and Hospital; Visiting Gynecologist to the New York City Hospital.

In the evolution of the vaginal method as a route of attack in the surgical treatment of pelvic disease we have now reached that stage in which it is no longer confined on the one hand to simple puncture and drainage, nor limited on the other to the inevitable, radical operation of hysterectomy. Experience has gradually broadened the application of this method to various conditions in the pelvis and with the improved technic has so facilitated the work that in the hands of the expert the condition must be extremely rare that is not amenable to it.

There are two vaginal incisions through which the pelvic cavity can be reached: one posterior to the cervix into Douglas' pouch and the other anterior to the cervix, separating the bladder from the uterus and opening up to view and touch the entire contents of the pelvis. The latter incision is the one which affords the greatest facility for operative procedures and the one which I use almost exclusively, the posterior incision being sometimes used in connection with it to afford additional opportunity for manipulation and in some cases for the purpose simply of securing drainage. Briefly, the procedure consists in making a tranverse incision through the anterior vaginal fornix, corresponding to the incision employed in complete vaginal hysterectomy. In addition to this a longitudinal incision is made at right angles to it through the entire length of the anterior vaginal wall. The bladder is then dissected from the uterus and also from the vaginal wall to the extent of an inch or an inch and a half on each side of the longitudinal incision. Through this opening, whether in virgin or multipara, ample space is afforded for whatever radical or conservative work upon the uterus and its appendages may be indicated.

The simplest and at the same time the very important function which is subserved by any incision into any of the large cavities of the body is that of an exploratory operation. An exploratory incision, so far as possible, should be free from danger; should give facility for gaining the desired information and at the same time afford opportunity for the completion of such surgical procedures as the indications may require. The anterior vaginal incision fulfils these functions most satisfactorily. First, it is free from danger and devoid of untoward or annoying consequences. When I first began to employ this method I feared that it would be followed by more or less serious bladder symptoms. In this, however, I have been happily disappointed; indeed, I have yet to meet the first case in which there has been any symptom referable to the urinary apparatus. The tissues through which the opening is made seem to be unusually tolerant of traumatic interference and the generous blood supply of these parts favors prompt and complete healing. As an exploratory incision I have found it to afford the means of acquiring definite and reliable information in regard

[1] Read at the twenty-fourth annual meeting of the American Gynecological Society, held at Philadelphia, May 23, 24, and 25, 1899.

to the entire contents of the pelvis. The third consideration is the important one, and experience alone can reveal how wide is the scope of its application.

During the past three years I have treated in this way almost every condition to be met with in the female pelvis—indeed, so thoroughly has the method commended itself to me that with three exceptions I have used it in every case that has come before me for operation. These cases have embraced every variety of disease from simple retroversion with adhesions to prolapsed and cystic ovaries, unilateral and bilateral salpingitis, ectopic gestation, fibroid tumors of the uterus, and dermoid cysts. This method affords opportunity for the most complete and radical work and at the same time lends itself to every form of conservative work upon the uterus and its appendages that has been suggested in the trend of recent modern gynecology. In no case have I yet consummated the operation of myomectomy, but in one instance this conservative measure would have been employed had it not been for the multiplicity of small tumors which contraindicated its application.

In cases of simple retroversion of the uterus the organ is readily anteverted and delivered into the vagina. The appendages first of one side and then of the other readily follow after and are carefully inspected and subjected to whatever treatment may be indicated. The round ligaments are then shortened by simply looping them upon themselves and stitching the loops together and the vaginal incisions closed with a running catgut suture. This procedure has its most appropriate application in cases of retroflexion in unmarried women. Its advantages are that the healing process goes on unconsciously to the patient, without any more constitutional or local disturbance than normally attends a simple trachelorrhaphy. The patient herself is not conscious of even having had an incision made, nor does she bear upon her person any trace of a surgical operation. Indeed, in many instances, the wound heals so kindly that often an expert gynecologist even after the lapse of only a few months might examine a patient and never suspect that an incision had been made.

In cases of retroversion with adhesions of the uterus and appendages the adhesions are promptly broken up, the uterus and appendages delivered into the vagina as before, and such treatment applied as may be indicated.

In cases of enlarged and cystic ovaries it is my custom in certain cases to excise the degenerated tissue, and in other cases, in which so extreme a measure is not indicated, to apply the ignipuncture, making in some cases as many as ten or twelve punctures with the actual cautery. When the indications demand it one ovary and tube are removed and such conservative work as may be indicated is applied to the opposite appendage. It is my effort and custom in cases in which the conditions justify it to leave a part of one ovary and at least the stump of the corresponding tube. In passing I may say that my experience in this conservative work grows more and more satisfactory. Four patients upon whom varying amounts of conservative work have been done have conceived and borne children, and satisfactory relief from pelvic symptoms has attended the other subjects to a gratifying degree. Large pelvic abscesses involving the tubes and ovaries, buried in exudate and firmly adherent to surrounding tissues, including both the intestines and the omentum, are easily, quickly, and satisfactorily dealt with and with far less shock to the patient, and a much smoother convalescence than formerly attended my work when done through the abdominal incision.

Large cysts of the ovary, simple and colloid, are easily handled through this incision when free from adhesions in the abdominal cavity. When its contents have been evacuated the cyst will collapse and can readily be drawn through the vaginal incision. In dealing with firm and extensive adhesions the danger of injuring or tearing the intestine is always imminent. Experience, however, educates the sense of touch and makes it possible for one to differentiate the various structures when they are not in sight and thus avoid doing harm. In only one case has an accident of this kind happened to me. In that instance the condition was one of large double abscess of the ovaries with extensive adhesions to the omentum and intestines. In separating the latter on the left side the sigmoid flexure was torn and a large opening made into the gut. Under the circumstances it seemed wise to me to perform a laparotomy and treat the wounded intestine from above. The laceration was found to be very extensive and required the resection of fully four inches of the sigmoid flexure. An end-to-end anastomosis was performed, however, and the patient made a smooth recovery. It must not be forgotten in this connection that such accidents are not by any means infrequent in dealing with similar conditions through an abdominal incision even in the hands of the most careful men. But if ninety per cent. of pelvic disease can be treated successfully without resorting to laparotomy, just so many women are saved primarily from the dangers of a laparotomy and, secondly, from all the discomforts which that incision involves as well as the more remote danger of hernia.

CLINICAL MEMORANDUM.

FRACTURE OF THE FEMUR: CONVALESCENCE COMPLICATED BY AN X-RAY BURN.

By J. COPLIN STINSON, M.D.,
OF SAN FRANCISCO, CAL.

M. R. always enjoyed good health until February, 1898. In July, 1897, he went to the Klondike and located at Dawson City. About February 15, 1898, he began to feel stiff and sore in his legs, and on February 24th entered St. Mary's Hospital at Dawson City with scurvy. The skin covering his feet, legs, and back of his thighs was ecchymotic. He remained in the hospital until June 26, 1898, and when he left weighed forty pounds less than when he entered it. He reached San Francisco July 17, 1898. By October, 1898, the black discoloration had disappeared from his legs and he felt perfectly well. On October 31st, while bicycling he was thrown violently from his wheel and the right thigh near the hip-joint was fractured. He was taken to the receiving hospital where chloroform was administered and the bone set. On November 1st the right hip-joint and adjacent portions were examined by means of the X-ray. The skin was exposed to the rays for forty-five minutes. On November 2d, skiagrams were again taken, the parts being exposed for the same length of time as before. During the exposures the dressings were removed from the region of the joint. The leg was kept extended by weights. On November 3d a long iron splint was applied along the outside of the body, reaching from the axilla to the foot.

Three weeks after the fracture occurred a plaster cast was applied. About six weeks after the X-ray examination the patient noticed considerable purulent-looking fluid under the plaster in the inguinal region. The plaster was cut away over this area and the skin exposed. The skin had exfoliated, looked parched, was of a dark-brown or coffee color, and purulent fluid covered the wound beneath the skin. A piece of skin the size of one's hand was removed. At first there was no pain, but later it was very severe and of an aching, throbbing character. Applications of medicaments other than vaselin caused great distress. By January 4, 1899, the wound appeared healed, but a thick, hard, dry, firm adherent scab about the size of a dime formed in the center of the healed area. This did not dry up or drop off but remained about the same size until the middle of February, when it began to extend and involve the surrounding skin.

On April 25, 1899, I was called in. I found the patient's general health excellent. Over the center of Poupart's ligament in the right groin I found a large, dry, leathery slough involving the skin and subcutaneous tissues. It was oblong in shape, about two inches in a vertical direction and two inches and a half in the transverse and was firmly adherent to the underlying structures. The skin for about an inch around the slough was thickened and very much indurated. I tried to remove the slough with scissors and forceps, but it was so tough and so intimately adherent, extensive, and painful on manipulation that only a few small pieces were trimmed away. I ordered hot, moist, borated gauze, several layers in thickness, to be applied to the wound. The gauze extended on all sides far beyond the edges of the indurated skin and was covered with a thick layer of moist cotton and a layer of gutta-percha tissue. On the top of this a couple of hot-water bags were placed to maintain heat and moisture. The bags were changed as often as the water began to lose its heat. The gauze was changed three times a day. At times carbolized gauze wrung out of a 1 to 100 solution of carbolic acid was used instead of the borated gauze. This application relieved the pain somewhat while the borated gauze promoted more rapid healing. There was considerable pain at all times until healing was completed. The applications were continued without intermission until August 3d. The sloughs had come away completely by June 15th and the indurations had all disappeared. Healing was complete by August 30, 1899. A small, moist gauze pad and sheet of rubber tissue were retained over the groin for about a month longer. At the present time the patient's general condition is excellent. He weighs 200 pounds. The scars in the groin are smooth, soft, and solidly healed.

MEDICAL PROGRESS.

Diagnosis of Aneurism of the Thoracic Aorta.—FRANKEL (*Centralbl. für Inn. Med.*, August 5, 1899) confirms the importance of Oliver's symptom in the diagnosis of aneurism of the thoracic aorta. It is especially marked when the aneurism occupies the third portion of the aorta and comes in contact with the wall of the trachea and left bronchus, and also in aneurism of the anterior portion of the arch where it crosses the anterior tracheal wall, provided there are adhesions between the aorta and the trachea at this point. Oliver's symptom consists in a systolic downward motion of the larynx. It can best be observed in the following manner: With the patient's head well bent backward and his mouth closed, one grasps the thyroid cartilage between the first and middle fingers and draws a little upon it from below upward. When this is done the downward thrusts of the larynx can be distinctly felt. Cardarelli has modified this test by pushing the larynx from right to left, the patient's head being meanwhile in a normal position. The thrust of the larynx under these circumstances will be from left to right. Frankel looks upon this test as pathognomonic of certain forms of aneurism of the arch of the aorta when other signs do not appear. It is conceivable that the same sign might be produced by a mediastinal tumor, although there is no clinical evidence of it.

Fatal Result of Ligation of the Internal Jugular Vein.—KUMMER (*Centralbl. für Chir.*, August 12, 1899) performed an operation upon a patient, aged fifty-two years, for the removal of a follicular cystadenoma of the lower jaw. The right half of the jaw was resected, a temporary ligature being placed upon the external carotid above

the superior thyroid branch. As the operator was dissecting out a nodule in close proximity to the internal jugular vein this vessel was so badly injured that it was tied in two places and divided. The operation lasted three-quarters of an hour, and for three hours afterward the pulse was strong and regular, but gradually became small and quick. Death occurred five hours after the operation. The autopsy showed intense congestion of the base of the brain with extravasation of blood in the ventricles. Death was attributed to obstruction of the circulation caused by ligation of the internal jugular vein. Rohrbach has described a similar case in which death resulted seven days after ligature of the internal jugular. The autopsy in that case showed a hyperplasia of the jugular vein of the other side of the neck, which fact plainly showed how great a venous stasis was produced by the ligation. Kummer expressed the opinion that in his case the temporary ligature upon the external carotid reduced the power of resistance of the middle meningeal, and so acted as a contributing factor in the death of the patient.

The Treatment of Delirium Tremens by Cold Baths.—Letulle (*Rev. de Therapeut.*, August 15, 1899) prescribes cold baths at a temperature of 72° F. for patients suffering from delirium tremens with high fever, 40.3° C. (105° F.). He gives an account of a patient who was immersed and thoroughly rubbed during the bath, which lasted thirty minutes. The talkative delirium persisted without any modification for twenty-five minutes. At the twenty-eighth minute he grew somewhat calmer and became visibly cyanotic. At the thirtieth minute he was taken out of the bath in a stupor. He was rubbed dry and artificial heat was applied. During the bath the pulse varied from 100 to 112; after the bath it remained at 108, but the temperature, taken by rectum, had gone down to 33.7°. C. (92°F.). Stimulants were administered, including 6 hypodermic injections of ether. At the end of an hour the temperature began to rise and the talkativeness returned. Several small doses of morphin were given hypodermically, in all 1 grain in twelve hours. On the following day the patient was much depressed but calm, and in a week he was quite restored. Similar results following a prolonged cold bath have been reported by other writers, one of whom in a very grave case kept his patient for seven hours in the water. Digitalis, opium in large doses, chloral, etc., never produce rapid or decisive effects; therefore, he is in favor of treating every patient suffering from delirium tremens by baths at a temperature of 72° F., lasting from ten to fifteen minutes to two or three hours, according to the gravity of the case, and until there is complete cessation of the delirium and fever. He looks upon restraint of such patients by the *camisole* as a species of homicide.

Massage with Quicksilver.—Rindfleisch (*Münch. Med. Woch.*, August 22, 1899) has devised a plan by which one can massage rheumatic joints without doing them more injury than good. He takes the inflamed hand and sinks it in a deep, wide glass which is two-thirds full of quicksilver. The quicksilver exerts an equal pressure on every portion of the fingers, and this increases very rapidly as the fingers sink further into it. The hand is sunk slowly into the quicksilver and withdrawn twenty or thirty times at one sitting. After the second sitting he was pleased to observe a marked diminution in the swelling and in four days the joint was almost normal. The method recommends itself for wider trial.

Idiopathic Thrombosis of the Portal Vein.—Rogers (*Bristol Med.-Chir. Jour.*, June, 1899) reports a thrombosis of the portal and contributory veins—a condition which occurs most infrequently. The patient was a child not quite five years old, who had been ill for three months with increasing abdominal distention. There was no personal or family history of syphilis. There was a small amount of free fluid in the peritoneal cavity and an enlarged spleen. There appeared to be no abnormality of any other organ. Four months later the child vomited some blood. Examinations showed that the spleen was still large and the liver extended two inches below the costal margin. Three years and eight months later the patient was re-admitted to the hospital, the parents stating that he had passed blood by the rectum. The following month he vomited bright blood several times and passed black blood per rectum. This occurred at long intervals for three months. For many months afterward he was free from hemorrhage and then had so large a hemorrhage that he almost died. He recovered from this attack and the hemorrhages were repeated every week or two until the patient died from exhaustion a little more than seven years from the time of the first symptom. During all this period the physical condition did not vary. A small amount of fluid was always present in the abdomen and this appeared to increase just before active hemoptysis came on. The spleen reached to within a half inch of the umbilicus but the liver apparently returned to its normal size. Traces of albumin were occasionally observed in the urine and there was an anemic cardiac murmur. The patient had a peculiar earthy odor. At autopsy there was found a small quantity of fluid in each pleural cavity. The lungs were healthy. The heart was small and partly empty. There was no valvular disease. The greatly enlarged spleen was adherent to the diaphragm and stomach. The splenic vein was filled with a hard discolored clot and a complete new set of vessels had developed which led from the spleen at various points. Tracing the affected vein forward the clot was found to extend to the vein in the lesser curvature of the stomach and to compensate for the obstruction to the circulation large veins coursed across the stomach from the right gastro-epiploic. One branch of the superior mesenteric was involved in the clot and the plexus of veins known as the pancreatico-duodenal was also affected. The portal vein as it entered the liver was hard and cord-like but the clot did not extend to any depth, although no compensatory branches were observed. The inferior mesenteric was not affected. Only a few similar cases have been reported. In these the duration of the trouble was usually only a few weeks. The cause of thrombosis is obscure. The liver is to a certain extent starved under such conditions but does not become cirrhotic. The writer believes in treatment by hemostatic drugs.

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THE REGULATION OF VENEREAL DISEASES.

We presented in our columns last week a most interesting account from our foreign correspondent of the proceedings of the International Conference on Syphilis and Venereal Disease recently held at Brussels. With the great advance during the past few years in our knowledge of these diseases, especially gonorrhea, it was hoped that some plan might be devised by which with concerted action throughout the world these scourges of mankind might be restrained. Indeed, Neisser went into the Conference inspired by the belief that the time has come when it is entirely practicable for the medical profession supported and assisted by the police, working under proper sanitary laws, to begin the process of suppressing venereal disease. Unfortunately, the moral phase of the question obtruded itself, and the discussion promptly degenerated into a heated debate for and against the general subject of the official recognition of prostitution.

The Conference debated for two wrathful days over the problem "Have systems of regulation had any influence upon the frequency and dissemination of syphilis and venereal disease?" and the disputants were so far from coming to any conclusion whatever that the President declined to put the question.

The fact of the matter simply is that we have absolutely no accurate or reliable statistics as to the actual amount of venereal disease in a community, so that comparisons of "before" with "after" or "regulated" with "non-regulated" are simply waste of time. Nor, unfortunately in the nature of the case, are we ever likely to have a complete or even approximately accurate record. The chief aim of the victims of venereal disease is to conceal its real nature, and even if physicians could ever be induced or compelled to report every case coming under their care, this would simply mean the driving of more than half the patients to the care of quacks or to home treatment by advertised "sure cures," so that reports under compulsory notification would be no index whatever of the actual prevalence of the disease.

Syphilis and gonorrhea cause few deaths, and, even in the rare instances in which they do a medical man who would dare to record the name of either in a death certificate would be either lynched or ostracised. So there seems little prospect of any more reliable data in the future than at present.

And the same difficulty is met upon the other side of the problem, the effect of registration upon the number of prostitutes. Usually after registration both the number of prostitutes and the percentage of disease among them show an apparent diminution. But then obviously much of this improvement is delusive, if, indeed, it be not overbalanced by the number of "regulars" who have simply joined the ranks of the clandestines and escaped all supervision. So we have not the data to pronounce positively even upon these two great fundamental questions, Has the amount of venereal disease in the community increased or diminished in the past ten, twenty, or forty years, and Is the number of prostitutes increasing or diminishing? But that is just why both sides are so positive. It is like a religious discussion in which anything can be asserted in perfect confidence that it can never be positively disproved.

The profitable features of the Conference were the awakened interest in the subject in general, and the

positive and optimistic views of those great masters, Neisser, Fournier, and Jonathan Hutchinson, that positive treatment, early begun and vigorously prosecuted, robs both syphilis and gonorrhea of their terrors for the individual victim and their dangers for his associates as well as his posterity.

THE TREATMENT OF GRAVES' DISEASE AND SOME ALLIED CONDITIONS.

IT is becoming clearer from year to year that Graves' disease is not so rare as was at first thought. It is also becoming clear that there is a series of symptomatic conditions which, while they do not present the full clinical picture of Graves' disease, are allied to it in many ways. These larval forms are often developed on the basis of a severe neurasthenia, and are the result not infrequently of chronic gastro-intestinal disturbance with consequent autotoxemia. In the atypical forms, while the tremor and the tachycardia are present, the exophthalmus is often absent, and the enlargement of the thyroid oftener still.

The fact has been pretty generally accepted that some fault in the secretion of the thyroid gland is the fundamental cause of Graves' disease. That the symptoms are due to an excess of thyroid secretion is as yet only a theory, and whether the influence of the thyroid is directly exerted upon internal nutrition by throwing into the circulation an excess of some toxic principle or keeping out some sozic material that neutralizes toxins, and so disturbing the chemism of general metabolism, is not definitely known. Certain features of the disease to which a good deal of attention has been directed in recent years would seem to indicate that the influence of the thyroid is indirect, and is exerted at least partially through the gastro-intestinal tract. Besides the intermittent diarrhea so characteristic of the disease there are other symptoms from the digestive tract, such, for instance, as capricious appetite, gastro intestinal uneasiness, and the presence in the urine of certain products, as indican, that are supposed to indicate disturbance of intestinal digestion and absorption.

The invariably unfavorable prognosis that used to be given in connection with Graves' disease has been greatly modified by the reports of many recent observers. Dr. Janeway, in a late number of the MEDICAL NEWS (August 26, 1899) said that in his experience patients suffering from the disease in private practice get well, though in hospital experience the results have not been so good. His treatment consists in assuring the patient that the disease is not as he has perhaps been told, incurable, the improvement of his general nutrition, and the administration of strophanthus and iron. When edema occurs digitalis is given in addition to the strophanthus.

Professor Mendel, the distinguished neurologist of Berlin, has long insisted that he is able to cure practically all the patients with Graves' disease that come to him for treatment. His plan is that outlined by Dr. Janeway, with the additional advice to the patient that a great deal of rest must be taken, twelve to fourteen hours of sleep a day, and a plentiful, but as far as possible unirritating, diet adhered to. Large quantities of milk, five or six or more liters in twenty-four hours, are recommended. In general, it is the rest-cure, but without confining the patient to bed. Owing to the strong nervous element in the cases Mendel insists that the patients shall not be liable to sources of worry and annoyance, and when marked excitability exists he counsels the use of the less depressant nerve sedatives.

One is tempted to class the treatment of Graves' disease, suggested by Dr. Allen of Edinburgh in the London *Lancet* for August 26, 1899, under this same category as affording relief by amelioration of the gastro-intestinal condition. He found in a case of the disease that the urine was very light in color and the dejecta pale. He concluded that there was a paresis of liver function, and administered pig's bile, using altogether 48,000 grains. Some 3000 grains of this was administered hypodermically, nearly 1000 grains directly into the thyroid gland. He thinks that it served to neutralize certain toxic substances produced by the gland. His patient improved mainly, as he admits, because of the effect of bile taken by the mouth. In another case the same result followed.

These observations would seem to confirm the opinion that whatever may be the direct pathogenic basis of Graves' disease treatment of the gastro-intestinal condition is always the principal indication. In most cases in which the treatment can be thor-

oughly and successfully carried out, it will effect not alone an amelioration of the symptoms, but will, in the opinion of at least two great and careful clinicians, bring about a positive cure of the disease under favorable conditions.

COPYRIGHT IN LECTURES.

A recent decision of the English High Court of Justice is of the greatest interest to medical professors and lecturers because it involves their right to what they have spoken. The case was a very important one, the defendant being no less a person than Lord Roseberry, the ex-Premier of England, while the plaintiff was the *London Times*. The noble lord in furnishing speeches for a forthcoming volume, "Appreciations and Addresses," to his publisher, John Lane, copied almost verbatim the text of certain speeches from the parliamentary reports of the *Times*. The *Times* brought suit to restrain publication of the volume contending that its report of the speeches was covered by copyright, and that the speaker had no right in the premises so far as the form of the speeches went.

The decision was rendered in favor of the *Times*. The argument of counsel was that unless a man takes the usual steps to secure the copyright on a lecture before its delivery, once it is delivered it becomes public property. As to the rights of the newspaper in the matter it is conceded that it is the reporter who gives form to the matter, and it is in this that the copyright lies. The reporter corresponds to a translator from a foreign language, and just as a translation may be copyrighted so may the report of a speech.

As American law follows English law very closely in this matter, it is evident that those who are present at medical lectures may bring out such lectures and secure a copyright on them. Of course a lecturer has his protection in being able to secure a copyright before the delivery of a lecture, but he may seldom be in a position to have his lectures in such shape as to take advantage of this right.

He may, however, copyright certain important lectures of a course before their delivery, so that the set would be noticeably incomplete without them, and thus secure the same object as in copyrighting the whole course in advance.

ECHOES AND NEWS.

A Pasteur Institute at Vladivostok.— A large building has been completed at Vladivostok, Russia, to serve as a Pasteur Institute for the cure and study of various epidemic diseases. It is thought that this frontier town will afford unusual opportunities for study.

Lombroso Has Found a Normal Genius.—Professor Lombroso has at last discovered a man of genius whom he can acquit of the charge of insanity. It is the memory of Goethe which he has thus honored in a recent article in an Italian literary journal. Goethe, he considers, was a normal, healthy and sublime poet.

Dr. Davenport Appointed Professor of Embryology.— Dr. C. B. Davenport of Hartford has accepted the professorship in embryology in the Deparment of Zoology at the University of Chicago, which was made vacant by the resignation of Professor William Morton Wheeler, who has gone to the University of Texas.

Death of Dr. Hendricks.—Dr. George A. Hendricks, Professor of Anatomy in the University of Minnesota, died at Minneapolis on September 25th. Dr. Hendricks went to Minnesota in 1889 from the University of Michigan. He introduced into the latter institution the graded course in anatomy, of which he was the originator.

Surgical Instruments Not Dutiable.—The *Railway Surgeon* for August 22d publishes a recent decision rendered by Judge Colt, of the United States Circuit Court reversing the decision of the Board of Appraisers and holding that surgical instruments imported into this country, being "scientific instruments" within the meaning of the law, are not dutiable.

How Quarantine Laws Are Administered by the U. S. Marine Hospital Service.—The Marine Hospital Service which has charge of the quarantine at Savannah, Ga., recently arrested two men from Philadelphia for making false statements regarding their itinerary and had them fined $50.00 each. They had been in a section of the country where there was liability to yellow-fever contagion.

Christian Science Exposed.—About one year ago the Medical News undertook the thorough investigation of the practices of Christian Science, placing the work in the hands of Dr. John B. Huber. The results of these investigations were published in the Medical News beginning with the issue of January 21st and continuing in three succeeding numbers. We are pleased to note that Dr. Huber has extended his inquiries, and now publishes in the October number of *Appleton's Popular Science Monthly* a most convincing and readable summary of his work.

A Prize for an Essay upon Tuberculosis.—A prize of a thousand dollars was offered by the Tuberculosis Congress recently held at Berlin for the best essay on the subject "Tuberculosis in the Community and Its Prevention." The essay must be written in a popular manner

If two authors are equally successful the prize will be divided between them. Competitors must submit their manuscript before December 4, 1899, to Professor B. Frankel, Berlin, Bellevuestrasse 4. The essay must be signed with a fictitious name and the real name and address of the writer be enclosed in a separate envelope.

Introduction of Yellow Fever into Key West.—In view of the allegations published in several newspapers, purporting to have eminated from official authorities of Florida, to the effect that the present epidemic of yellow fever in Key West is due to the "negligent inspection service of the Marine Hospital Service" at Havana and no disavowal by said authorities having been received or noted in the press, the Bureau deems it necessary to state that it knows of no evidence or facts which justify such assertions. The alleged facts and intimations, so far as known, have been thoroughly investigated and found to be without foundation.

A Fertile Hybrid Pigeon.—Professor C. O. Whiteman, of the Department of Biology at the University of Chicago, is reported to have succeeded in raising a fertile hybrid pigeon. This means the making of an entirely new species of pigeons and is a scientific achievement which had been supposed impossible. Dr. Whiteman, early in the summer cooped 300 pigeons in wooden cages and shipped them to Wood's Holl, Massachusetts, where the discovery was made. These pigeons were from various places and were both wild and tame. The mother of the hybrid bird was a Japanese turtle-dove and the father a common rough pigeon.

Japanese Medical Literature.—The Sei-I-Kwai Medical Society of Japan, or in other words, the Japanese Society for the Advancement of Medical Science, keeps on file in its library between thirty and thirty-five native publications devoted to medicine, besides as many foreign medical journals. The society also publishes a medical journal of its own, and part of the articles are in English, to meet the demands, it is explained, of the many English speaking medical men in Japan. A recent issue of the *Sei-I-Kwai Medical Journal*, No. 6, volume xviii, seems to prove that Japanese physicians are engaged upon much the same subjects that interest us here and in Europe.

The Development of Stunted Minds. — The "Chicago Physiological School" has been incorporated under the laws of the State of Illinois by President Harper of the University of Chicago, and others. Work will be begun at once. The school is to be an experimental one in training children in whom development is arrested. There will be three departments—physiologic, psychologic, and pedagogic. The pupils will be kept constantly under surveillance. A close study of individual peculiarities is to be made and observations will be recorded. It is hoped thus to reach some logical conclusions concerning what environment will do for children who fail to develop normally. Owing to the closeness of the observations that are to be made, the school will receive at first only fifteen pupils.

Women in Medicine —Twenty-five years ago there were 500 women physicians practising in the United States; to-day there are 4500—or 1 to 15,000 inhabitants. Miss Elizabeth Blackwell—an American—was the first woman doctor of whom there is record. She was enrolled as a physician in the "Medical Register" of January 1, 1849. One of America's most noted women doctors, Marie E. Zakrzemska, was a native of Berlin, but she had to leave the German capital in consequence of the strong prejudice aroused against her. That was many years ago. Now the woman doctor is to be found in most European cities. In the Far East there are now women physicians, among whom the best known is a Chinese lady, Dr. Hu King Eng, first physician to the household of Li Hung Chang. Dr. Eng took her degree in the United States and is now in charge of a hospital at Foo Chow.

Danger from Turkish Tobacco.—The United States Sanitary Commissioner at Constantinople, in a recent report to Surgeon General Wyman of the United States Marine Hospital Service, says that the sanitary physician at Cavalla lays great stress upon the spread of tuberculosis among the workmen in the tobacco factories. In order to retain the qualities of Turkish tobacco, which are so much prized, it must not be exposed any more than is absolutely necessary to the air. Consequently in its manufacture into cigars no circulation of air is allowed in the work-rooms. These rooms are ill-ventilated, therefore, and damp. The workmen are crowded and obliged to breathe all the dust which the manipulation of the herb causes. They sleep in these same rooms, are badly clad and insufficiently fed. They suffer from bronchitis, expectorate wherever they can, and many of them are afflicted with tuberculosis.

Eddyism (Christian Science).—A recent number of *The Outlook* presents the following reflections upon this subject: Suppose a Mormon were to set up as a pilot, claim divine guidance, and insist on his right to take steamships in and out of New York Harbor on the strength of his proficiency in the Book of Mormon, would it be a violation of the liberty of the individual to prohibit him, and to put him in jail if he persisted? Yet the danger to the community from incompetent pilotage of an ocean steamer would not be so great as the peril from incompetent treatment of certain contagious diseases. Nor does this beg the question of assuming that Christian Science is incompetent treatment. We do not assume that it is incompetent; we assume that the community has the right to determine whether it is competent or not. Nor does this position deny the right of a Christian Scientist to go without a doctor, or even to avail himself of a mental healer. It denies the right of the mental healer to practise his mental healing as a profession for pay.

New Food for Soldiers — The *Kölnische Zeitung* of Berlin publishes an account of an experiment with a new food for soldiers called "tropon," a chemically prepared albumen product. Twenty-five officers and men volunteered for the experiment. The rations were wrapped in waterproof paper and each man received three yellow

packets containing one-day's rations of tropon rusks and tropon chocolate; also, a packet containing two-days' rations of the solid materials for tropon bean and pea soup. During three days the men, in full marching order, covered 30 kilometers each day and slept in the open air. Beer was allowed on the evening of the second day, and coffee was served on the second and third mornings. The rusks were enjoyed to the last but the men turned against the tropon chocolate toward the end of the time. The soups were made rather thick and a little salt was added. A tropon ration for three days weighs 1.200 grams, whereas the ordinary ration of solid food for the German soldier weighs 1.950 grams. The tropon ration is also cheaper in proportion to the amount of nourishment it contains.

Surgeon Huidekoper's Criticism.—Colonel R. S. Huidekoper, late lieutenant-colonel and chief-surgeon of the First Army corps and of the United States troops in Puerto Rico, read a paper "On the Organization of Army Corps" before the Association of Military Surgeons at Kansas City, Missouri, on September 29th. The colonel who had been criticised because of his management of the army camps, took occasion to defend himself and the volunteer surgeons and to attack Surgeon-General Sternberg and the regular army surgeons for the management of the hospitals at Chickamauga. "Privates, when transferred to the hospital corps as nurses were found to be drunkards, epileptics and such worthless men as were not wanted in the army." Complaints that were made were pigeon-holed. The difficulty experienced in getting medical supplies was set forth and it was declared that "the complete outfit of a brigade hospital as a unit, and the supplies for three regiments multiplied a hundred times could have been supplied by any contractor inside of two weeks." A lively discussion followed which will be printed with the meeting's proceedings after all the personalities have been eliminated.

The Yellow-Fever Situation has grown decidedly worse. From forty to fifty new cases were being reported daily at Key West at the end of last week and the beginning of this. While the epidemic is spreading in Key West itself very rapidly, thanks to the efficient sanitary measures of the Marine Hospital Service, the surrounding country is being protected. In Key West itself the disease is not very virulent in type, the death-rate being under 10 per cent. In New Orleans several new cases were reported at the beginning of the week, but no deaths from the disease. At Mississippi City, Miss., the State health officer at the end of last week announced that thirty new cases of the disease were under observation and that the disease was practically beyond control. At Jackson, Miss., the State Board of Health announced the presence of two cases of the disease on Friday of last week. While very little excitement was caused by the announcement, many of the towns in the interior of the State at once announced a quarantine against Jackson. Within a half hour, it is told, after the announcement the railroads proclaimed a quarantine. The radical measures thus taken at once, seems thus far at least, to have accomplished their purpose of confining the fever to Jackson, and the reports from the city itself seem to show that the disease is not spreading rapidly. There has been some criticism in some of the New York daily papers of inefficiency on the part of the Marine Hospital Service but it is entirely undeserved and the sanitary service meets with the warmest praise on the part of those on the scene and capable of judging of the work that is being done. It is hoped that the cold weather that occurred at the beginning of the week will aid in stamping out the disease. Key West is absolutely below the frost line, but there was frost on Sunday and Monday nights in Mississippi and Louisiana. The strictness of the quarantine being enforced against affected points may be judged from the following incident: Governor Sayers received a telegram one day at the beginning of this week from Major Scobel of the British Army, who is the United States buying mules, asking permission to come into Texas from New Orleans to secure several thousand mules. The Governor replied that he could do so by complying with the yellow-fever quarantine regulations which require him to be out eight days from New Orleans before he can enter the State. The yellow-fever situation in Havana has been very encouraging during the month of September considering especially that usually that month is expected to be the worst of the year. The report for September shows there were eighteen deaths, eight of the victims being Americans and eight Spaniards. The others were one Frenchman and one German. The total number of cases during the month was fifty-four. There are twelve cases now on hand, mostly convalescent. Surgeon Major Davis says he is well satisfied. He believes that within the next thirty days there will not be more than two or three cases. The weather is cooler and the city is clean. The Surgeon-Major considers it remarkable that Casa Blanca, formerly the worst part of the city, has had only one case of yellow fever.

The Plague Situation.—This week the center of interest in the plague has been shifted from Alexandria to Portugal again. No further cases are reported from Alexandria and there was but one death out of the three cases that developed last week. The newspaper accounts from Oporto at the end of last week were alarming enough. Confirmation has been obtained of the report that the bubonic plague has made its appearance at Baguia, a village outside the sanitary cordon. The disease was introduced there by two patients in the hospital. Later advices seem to indicate that plague has broken out among the soldiers constituting the military cordon of sanitation. Notwithstanding the evidence of the existence of the disease, some foreign sanitary officials while making the rounds of inspection of the sanitary cordon were stoned by the inhabitants of certain of the country districts and had to demand police and military protection. So much popular opposition has been aroused by the prohibition to leave the city that a decree has been signed allowing persons to leave Oporto after a medical inspection and the disinfection of their baggage; sanitary enthusiasts recommend the withdrawal of the filthy bank-notes in circulation owing to the danger of their carrying infection.

As paper money is used in Portugal for minute sums of money their number is enormous, and the measure recommended of requiring their withdrawal would be very opportune and a practical sanitary regulation. In India there is a decided improvement in the plague situation. At Poona where the disease has been raging fiercely it has unaccountably subsided. Where hundreds of cases a day were being reported up to the middle of September now there are none. Of this change and of the condition of affairs around Poona, the *British Medical Journal* for September 23, 1899, says: "Such a drop in an epidemic of plague is unknown, and it shows how much has to be learned in regard to the epidemiology of the disease. The rumor abroad in regard to the inadequacy of hospital accommodation, the paucity of doctors and nurses, and the general chaos described by certain local papers as obtaining at Poona, we are able on the best authority (Major Read, R.A.M.C.) to deny. Every European is working at high pressure, but the patients, so far from being neglected, are carefully attended to in every way. The enormity of the work may be understood when the number of plague patients is considered. Between August 1st and August 16th no fewer than 1085 cases were admitted to the plague hospitals. Of these, 154 were discharged cured, 661 died, and the remainder continued under treatment. In the districts around Poona, however, help is badly wanted." The *British Medical Journal* also announces seemingly on good authority the presence of plague in Portuguese East Africa. It adds a comment that, in the light of recent developments in the South-African situation, is of special interest: "From Lourenco Marques a telegram announces that at Magude suspicious cases of illness, believed to be plague, have occurred. The proximity of Lourenco Marques to Madagascar, and the landing of natives of Jullim at that port from Goa and elsewhere, cause this report to be viewed with considerable anxiety. Moreover, with the possibility of war breaking our in the Transvaal, and the proximity of a possible plague center so near the area of contemplated operations, it behoves the British authorities to be specially watchful of the spread of plague in this district." The report of the occurrence of plague at Assuncion in Paraquay seems to have been entirely without foundation. There has been absolute silence in the matter since the first announcement and the original despatcher of the canard seems to have selected a town from which contradiction would not come at once. One of the most encouraging recent reports from Portugal is that the Pasteur Institute Plague serum has been used there with good effect. A prominent Paris paper publishes the report of an interview with Professor Calmette, the Pasteur Institute Commissioner, who has returned from Oporto, in which the Professor says that before his arrival the mortality among those stricken with the plague amounted to thirty-three per cent. Of fifteen treated with the serum, he adds, not one died. This restored public confidence, and in three days he inoculated 423 persons.

Precautions against the Plague in Russia.—The United States Consul at Odessa, Russia, sends to the United States Marine Hospital Service an interesting and encouraging account of the steps that are being taken by the Russian Government to prevent the spread of the plague. He says: "There seems to be a general belief in this section of Europe that with the advent of the Paris Exposition the bubonic plague will be spread all over the continent of Europe, and may even reach the States of North and South America. Early during the present year an outbreak of this dreaded disease occurred in the district of Samarcand, in Central Asia. That it was brought from India there can be no doubt. It is pretty generally understood that the measures taken to stamp out and arrest the further progress of the outbreak at Samarcand were entirely successful. For reasons of public policy, I presume, no published account of the means employed was allowed to appear. The entire village was said to have been afflicted and no recoveries were reported. Troops surrounded the place and no one was allowed to enter or to leave. The village and all that it contained was destroyed by fire.

"I can recall a similar instance which occurred while I was in Central Asia in 1892. The place affected was a small Persian village in the province of Khorassan, near the Russian town of Ashabad. I was at that time reliably informed that the disease had been stamped out in the same way as I have described above. The Persian Gulf is now very seriously affected and the Mediterranean Sea also. Ten-days' quarantine is enforced here on all vessels from Alexandria, the quarantine station being at the port of Theodosia. A British ship with a general cargo arrived here recently and was given ten-days' quarantine at Theodosia, because, on her way out from England the vessel stopped at Alexandria to discharge some cargo at that port. On arrival here, after the ten days at Theodosia had been completed, the local authorities refused to allow the cargo to be discharged unless it was previously disinfected, for the reason that the ship had permitted the laborers at Alexandria to come and go quite freely while they were unloading the cargo for that place. The captain pleaded that he had not only done ten-days' quarantine at Theodosia, but had also done several days below Constantinople before he was allowed to pass the Bosphorus and enter the Black Sea. He also reminded the authorities that ten days after the exposure was the extreme limit, after which time the best sanitary authorities agreed that there was no danger to be apprehended. It was of no use, and St. Petersburg was appealed to, but the response was that the disinfection must take place. It was claimed by the authorities that the ten-days' quarantine was probably enough as far as the officers and crew were concerned, but there was danger of infection from the merchandise in the hold of the ship, on account of the laborers having had free access to the same while the ship was discharging at Alexandria.

"The Russian Government is taking strong measures to keep the plague out of the ports of the Black Sea, and Lieutenant-General P. J. Tomich has recently visited every port to inspect the sanitary arrangements of the

ports and cities, in order to acquaint himself with the requirements of the same. General Tomich is a member of the Council of the Minister of the Interior and has been specially commissioned by His Majesty to make this tour of inspection and to cause immediate steps to be taken to remove defects and improve sanitation. The General has not confined his visits to the seaport towns only, but has visited many towns inland, particularly such as have connection by water or railway with seaport towns. He not only inspects the public buildings at the places he visits, but all asylums, baths, bakeries, hospitals, boarding-houses, tea-houses, market-places, etc. Orders were given to make prompt improvements in many places which General Tomich takes care to have done, by making a second and unexpected visit to each place. The General will make Odessa his headquarters until September, and will inspect the town thoroughly and also visit numerous other places in the interior, such as Nicolaiev, Cherson, Voznesensk, Ochakov, and other towns. This visit of inspection is a matter of rejoicing for Odessa and other places as well. Our present governor, Count Schouvalov, is an extremely able man and is abreast with the times, still a special commissioner from the Emperor will have a wonderful effect in causing the authorities to move. Count Schouvalov is a reformer who has the interests of Odessa and its inhabitants at heart."

MEDICAL MATTERS IN NEW YORK.

CHARITY HOSPITALS NEED NURSES—MEDICAL DIRECTOR TRYON RETIRED—RULES FOR DISPENSARIES.

THERE are many nurses needed in the charity hospitals in this city, and the Civil Service Commission cannot furnish enough eligibles to supply the demand owing to the small number of applicants. The salary paid to the nurses desired is $300 per annum and upward. Board and lodging and instruction are furnished.

Medical Director J. Rufus Tryon, who is now sixty-four years old, has been placed on the retired list of the Navy on account of age. Dr. Tryon was for four years the Surgeon-General of the Navy. He served through the Civil War, and was with Farragut at Mobile. During the cholera epidemic in Japan in 1871 he was in charge of the United States Naval Hospital at Yokohama, and two years later had charge of the naval yellow-fever hospital at Pensacola, Fla., when there was an alarming outbreak of the disease at that place. The Venezuela Government decorated him for his services to the sick and wounded of both factions during the revolution in that country. He was the representative of the United States Navy at the International Medical Congress at Madrid just before the war with Spain. For more than a year he has been the general inspector of naval hospitals. He is a native of New York City, and he will henceforth make his home here.

The Committee of the State Board of Charities appointed to draw up rules for the government of dispensaries gave a public hearing at the United Charities Building on September 28th. The Committee consists of Dr. Stephen Smith of this city, General Simon W. Rosendale of Albany, and Dr. Enoch Vine Stoddard of Rochester. The last-named gentleman was not present. The rules as drafted by the Committee provide, in brief, that in dispensaries treating women and children at least two women shall be included in the Board of Managers; that the medical staff of dispensaries shall have two divisions, physicians and surgeons; that there shall be a registrar who shall keep a record of all cases, and investigate the ability of applicants to pay; that cases of contagious disease shall be excluded from all dispensaries, except those devoted to contagious diseases; and that there shall be a matron for each institution.

Many prominent physicians and lay trustees connected with local dispensaries were present in response to invitations to express their opinions upon the proposed rules. The rule providing for a minority representation of women on the managing boards of dispensaries was objected to for the reason that many dispensaries are under the management of incorporated institutions whose articles of incorporation would prohibit the appointment of women. On the other hand it was argued that this rule was entirely in accord with an increasingly prevalent sentiment, both in this country and abroad, that institutions treating women and children should have women members in the supervising body. The rule which attracted most attention was that which seeks to provide a means of sifting out of the vast number of applicants for gratuitous aid those who are able to pay for it. The consensus of opinion of those present was that in time there should be established a registration bureau, which should act as a sort of clearing-house, wherein should be filed a list of all applications. Doubtful cases would be investigated and their final disposition left to the respective dispensaries which reported them.

The draft of rules will probably be revised and will then be submitted for final action at a meeting of the State Board of Charities, which will be held at Albany on October 12th.

MEDICAL MATTERS IN PHILADELPHIA.

EDDYISM AGAIN—FESTIVITIES A LA HAHNEMANN—WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA—UNIVERSITY OF PENNSYLVANIA'S MEDICAL DEPARTMENT — PHILADELPHIA FREE FROM SMALLPOX—"HUGH WYNNE'S" SUCCESS—VITAL STATISTICS.

PHILADELPHIA, October 3, 1899.

THE death, from nephritis, during the past week, of an aged inmate of one of the large charitable institutions of this city, after having obstinately refused to avail herself of the medical services of the physician-in-charge, because of her reliance on the healing powers of Eddyism, has aroused the interest of the coroner, who announces that the formal post-mortem verdict in this case is a mere prelude to the developments which are expected to follow. This official, in his charge to the jury, bitterly scored the cult of the Eddyites, some of whom, he believed, had gained admission to the institution in question under the guise of visitors, and, once admitted, industriously pro-

ceeded to secure as many "converts" as possible, as it were, under the very noses of the officials. The results of these tactics has been demonstrated above, in the flat refusal of the deceased to follow the physician's directions because of her "faith" in other channels. The coroner is now undertaking an investigation in this particular case hoping to secure sufficient evidence to warrant a prosecution at the hands of the District Attorney. In view of the pernicious activity of the Eddyites and their allied sects in this vicinity of late, it is sincerely hoped that Coroner Dugan's efforts in this instance will meet with every success.

The present week has been an era of gay hilarity for the homeopaths of this State in general, and of this city in particular, the reason for their unwonted festivity having been the thirty-fifth annual meeting of the Homeopathic Medical Society of the State of Pennsylvania, held in the halls of the Homeopathic Medical College. Having been welcomed to the city with a few well-chosen words by the Mayor, the delegates of the Society at once proceeded to italicize their superior points by announcing a gratifying increase in the number of new local homeopathic medical societies through the State during the past year, and by emphasizing the fact that at present the medical staffs of certain State hospitals are becoming permeated by members of their sect. The scientific sessions were literally howling successes, and a vast array of matter was laid before the 150 enthusiastic delegates. Among the subjects of scientific interest with which the members were regaled were papers upon such topics of interest as "The Doctor's Horse, Carriage, and Stable," "The Care of the House Beautiful," "The Sanitary Use of Water," "The Doctor's Vacation," and the vital query, "Can Homeopathy Cure Malaria?"

The fifth annual session of the Woman's Medical College of Pennsylvania was inaugurated September 27th, the event being observed by holding special exercises at the institution. The opening address was delivered by Dr. Clara Marshall, the annual address to the students being delivered by the Dean of the Faculty, Dr. Emma E. Musson.

The opening exercises of the session of 1899–1900 of the Medical, Dental, and Veterinary Departments of the University of Pennsylvania occurred in the chapel of the University on October 2d. Provost Harrison and the deans of the respective departments delivered addresses to the students on this occasion. Among the important changes in the *personnel* of the Medical Faculty which have occurred since the close of the last session are the following: Dr. James Tyson becomes Professor of Theory and Practice of Medicine, as successor to the late Dr. William Pepper; Dr. Simon Flexner, late of Johns Hopkins University Medical School, succeeds Dr. John Guiteras as Professor of Pathology; Dr. John H. Musser and Dr. Alfred Stengel jointly occupy the chair of Clinical Medicine; and Dr. G. G. Davis becomes Professor of Applied Anatomy. The successor to the Chair of Gynecology, made vacant by the resignation of Dr. Charles B. Penrose, has not yet been announced, and great speculation exists as to the identity of the future occupant of this important place in the medical faculty. The competition has practically narrowed down to three of four candidates and the successful applicant for the position will probably be named during the next two or three days.

The Chief of the Bureau of Health has reported this week that this city is now entirely free from smallpox, the last case of this disease having been discharged from the Municipal Hospital a week ago. During the epidemic which prevailed last April in the near-by suburb of Nicetown, there were 111 cases, all of so mild a type, however, that none ended fatally. These cases occurred exclusively among negroes, with a very few exceptions.

The lasting impression made upon the public's mind by Dr. S. Weir Mitchell's historical novel of Philadelphia life, "Hugh Wynne," is evidenced by the unexpectedly great demand for the new Continental edition of this work now in press. This new edition is announced for publication during the coming week, but already the demand of the trade has been so large that the number of copies at first estimated as sufficient has had to be supplemented by the printing of a large second impression. This edition of Dr. Mitchell's most important novel is elaborately illustrated by full-page illustrations by Howard Pyle, by views of present scenes of places incident to the novel, and by the reproduction of many rare manuscripts and old prints.

During the week ending September 30th, a total of 364 deaths from all causes was reported in this city, or a decrease of 7 as compared with the preceding week, and of 18 compared with the corresponding period of 1898. During the week there were reported 77 new cases of diphtheria, 65 new cases of enteric fever, 50 new cases of scarlet fever, and 2 new cases of cerebrospinal meningitis.

MEDICAL MATTERS IN CHICAGO.

RELATIVE TOXICITY OF COCAIN AND EUCAIN.

CHICAGO, October 2, 1899

AT a recent meeting of the Chicago Academy of Medicine, Dr. A. H. Peck read a paper in which he drew the following conclusions with reference to the relative toxicity of cocain and eucain. (1) The action of cocain is inconstant; one never knows whether the symptoms occasioned by like quantities of the drug, in animals or individuals, under like circumstances, will be similar or dissimilar. (2) The action of eucain is constant. The symptoms occasioned by the use of like quantities in animals under like circumstances, and so far as my experiments have gone, in different individuals also, are the same. (3) The first action of cocain on the heart is that of a depressant, and on the respiration it is that of a mild stimulant, the after-effects being, on the heart, that of a decided stimulant, and on the respiration, that of a decided depressant. (4) The first action of eucain on both the heart and respiration is that of a stimulant, the after-effects being that of a decided depressant. (5) Cocain causes death in animals by paralyzing the muscles of the respiratory apparatus, the heart's action continuing in a feeble way for a brief period after breathing ceases. (6)

Eucain causes death in animals by paralyzing the muscles of the heart and of the respiratory apparatus, they ceasing to operate simultaneously. (7) Eucain in toxic doses nearly always causes nausea, and occasionally vomiting. (8) Cocain is much less nauseating and scarcely ever causes vomiting. (9) Eucain is decidedly a diuretic, causing renal discharge in a majority of instances in which a toxic dose is used. (10) Cocain is not a diuretic to any appreciable extent, renal discharge having occurred in only one instance in connection with all my experiments. (11) The pupils of the eyes, in nearly all cases of cocain poisoning, do not respond to light, and are more or less bulging from their sockets. (12) The pupils of the eyes, in most cases of eucain poisoning, do respond feebly to light, and rarely ever bulge from their sockets. (13) The action of toxic doses of eucain is more like that of a paralyzing, tetanoiding, convulsion-producing agent, than it is like an anesthetizing one, the plantar and cremasteric reflexes nearly always responding. (14) Toxic doses of cocain cause general anesthesia in connection with the other symptoms in the majority of cases. (15) True tetanus, of all striped muscles of the limbs, and Cheyne-Stokes breathing nearly always occur with the use of cocain, but seldom does either occur when eucain is used. (16) Cocain is at least three times more toxic than beta eucain, and alpha eucain is as toxic as cocain. (17) Boiling does not destroy the efficacy of cocain, but it does modify it, and boiling in no degree lessens the efficacy of eucain.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

DR. DONALD ROSS AND THE COLONIAL OFFICE — BURYING GROUNDS EXTRAORDINARY—THE GRAVELESS NAME—THE SANITARY CONGRESS AT SOUTHAMPTON — THE MUSEUM OF THE POLYCLINIC — A JUDGE'S INSULT TO THE PROFESSION.

LONDON, September 25, 1899.

THE contemptibly, insignificant part which the Government has actually played in the triumphs and advances of the English flag is again illustrated from Sierra Leone. Urgent appeals were made to the Colonial Office at the time of the starting of the Major Ross expedition to cooperate with it either in the way of funds or detailing army medical experts. This was declined as being too sudden, but hopes were held out of later assistance. As soon as the hematozoon had been found in the body of the *anopheles*, Major Ross again appealed to Secretary Chamberlain, but this time he was "not prepared." So the plucky little Liverpool School of Tropical Medicine took up the gauntlet again and sent out a permanent investigator to continue the work of the expedition. Ross' findings were even more complete than at at first reported, the proof being three fold: the presence of practically only *anopheles* in the affected barrack, the presence of the quartan parasite in three captured specimens, and its discovery in the tissues of two out of three mosquitoes permitted to suck the blood of a patient. These, with Grasse's negative experiment of taking an unacclimatized family of seven to sleep every night in the fatal Roman campagna without any ill results whatever, simply from keeping the windows of their rooms absolutely protected by perforated zinc sheets, make the "conviction" of the mosquito in general, and *anopheles* in particular, practically a demonstration, and if this species is as reported a shy breeder and quite limited in its hatching areas, the stamping out of malaria even in the tropics, seems quite among the possibilities. The value of this to England with her huge colonies and dependencies is so inestimably enormous, so palpably so to every one except an official, that really Mr. Chamberlain might let even President Kruger wait a few weeks while he attends to it. But the official intelligence is waterproofed against ideas.

It is little wonder that cremation is making headway in England. The state of affairs in some of the present city cemeteries is little short of revolting. It has of course became accepted here as a matter of course, that after the markings of a grave have disappeared and the body contained in it presumably completely decayed to a few mouldering bones that its space be used for a new interment. One can stand when a grave is being dug in any of these lonely little country churchyards, such as the immortal "Elegy" was written in, the beauty-spots of England, which almost reconcile one to death for the sake of being buried in them and having future generations come and review your ashes, and watch here a skull and there a rib brought up in the shovelfuls of rich brown earth. "Rich with the (human) spoils of time." Strangely as the gravedigger's scene in Hamlet strikes upon Transatlantic nerves its stage mountings may be seen under any Yew-tree's shade here, and Shakespeare must have been as familiar with them as with the stalls of the market-place. But about this there is nothing repulsive; Time's mellowing hand has softened the horror of death out of these relics. They have been absorbed again into the body of Mother Earth. Like the monks of Chartreuse they have had both their day and their sleep in consecrated ground—and they vanish to make room for others. But in the overcrowded cemetery of the growing city or the manufacturing town there are no such redeeming and softening features. Bones still moist and skeletons which cling together are rudely distributed and strange stories are told of gruesome sights seen by the rays of the sexton's lantern. A most painful case of this sort has just come before the courts. The superintendent of a Scotch cemetery was charged with exhuming half-decayed bodies, dismembering them, and throwing them into hollows in walks and roadways which were being filled up. Three of the gravediggers testified to having done work of this sort under his directions.

But indeed a certain amount of "shifting" is absolutely inevitable under the present state of affairs and size of cemeteries. The thing that first strikes an American about English cemeteries is their disgraceful smallness, and this is not because of the excessive dearness of land, which is actually lower than in many of our Eastern cities of similar size, but simply because our forefathers

built them that way. The wretched little boxy railway carriages, survivals of the body of a leather-hung coach, are retained on the same unanswerable ground. And to-day in the London suburbs the bodies of those who cannot afford a family lot are buried one on top of the other, five and six in a grave. A deep grave is dug and then filled up with bodies, separated by thin layers of earth, until it is full to within three feet or so of the surface, when earth is shovelled in in the usual way, at least so several eye-witnesses of the process have described it to the writer. The last body put in has the right to the headstone, and consequently this gruesomely "superior" position is much coveted by the poor for their deceased relatives It would never do to let all the names appear above, as that would shock the delicate sense of propriety of the British public, a thing no official would be guilty of, for any consideration. One has heard much of the pathos of the nameless grave, but it is certainly matched by that of the graveless name. Overcrowding and oblivion seem the lot of the poor, not only in the slums, but in God's half-acre as well.

The recent Sanitary Congress at Southampton was an admirably representative body. Some 2000 delegates were present, including 500 ladies, and nearly 200 municipalities were formally represented by aldermen, medical officers, and citizens. Dr. Newsholme of Brighton made a most favorable and well-received report upon the good results obtained under a rule of compulsory notification of phthisis. Instead of its being resented as an intrusion upon their privacy by the patient and his friends, Dr. Newsholme found in the majority of cases that they were anxious to get all the information and assistance possible from the health officer. Most of the them seemed to have got an inkling of the communicability of tuberculosis and instead of being frightened by his visit and instructions were glad to hear how to take proper precautions against its spread. This was before the conferences of medical officers of health (or "M. O. H.," as it is usually abbreviated here) and conferences of municipal representatives of port sanitary authorities and of medical officers of schools. Before this last, an excellent and timely paper was read by Dr. Shelby, urging the importance of systematic teaching of bodily hygiene to children instead of the "deliberately preserved ignorance" in which they are now brought up.

The London Polyclinic is just beginning the erection of a handsome museum-building.

The English Government is arranging to supply every military hospital in India with Calmette's antivenene.

Sir Edward Fry, late judge of what in England practically corresponds to our Supreme Court, has written a letter to the *Times* in which he repeats the absurd and baseless allegations of the London Chamber of Commerce as to the receiving of commissions by medical men from druggists, mineral-water companies, and undertakers. He has no new proof whatever, but simply repeats second-hand gossip from certain druggists and opticians, who, naturally, "did not wish their names to be mentioned." His insane and diseased imagination actually carries him to the insulting length of picturing a doctor watching beside the bedside of a patient hovering between life and death, and debating whether he had better cure him or let him die and get the undertaker's fat commission!! The man who commits such delirium-tremens conceptions as this to paper simply writes himself down as little better than an idiot, and his spiteful insult is beneath contempt. It is simply a survival of the old, vulgar, superstitious dread and distrust of doctors which abounds among slum-dwellers and darkeys, but which we hardly expect to find among civilized and intelligent people, let alone justices of the Supreme Court.

SOCIETY PROCEEDINGS

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held September 28, 1899.

THE President, DR. S. O. VANDER POEL, in the Chair.

After the nomination of officers for the ensuing year had been made, DR. WILLIAM H. PORTER read a paper, entitled

HOW NATURE UTILIZES THE IRON CONTAINED IN THE BLAUD PILL.

Dr. Porter said: A discussion of the use of iron in anemia, and especially in the popular form of the Blaud pill, may seem needless, yet there is by no means a perfect agreement as to its indications, and the method in which the iron acts is so much a matter of dispute that the whole subject merits careful review. The fact of the matter is that the physiologic action of iron in anemia is not well understood. To understand it we must know how hemoglobin is formed for the blood and how it is destroyed. Neither manganese nor iron, even in cases in which they act beneficially in relieving anemia, are directly absorbed. It is a very wise provision of Nature that these substances are not absorbed, and they seem to be kept out of the system by the same mechanism that keeps other toxic substances that may be in the intestinal tract from absorption into the circulation.

In considering the formation of hemoglobin, it must be remembered that while plants have the power of synthesis, that is, of building up more complex compounds out of simple ones during the course of their nutrition and growth, animals have not. Animals live by analysis; that is, by breaking up complex substances into simpler ones. If this cardinal principle in the biology of the two forms of living things, for it is an essential distinction between their modes of existence, be borne in mind, the mistake will not be made of thinking that the absorption of inorganic compounds into the system takes place or that they are used in it. Hemoglobin is not thus formed. Its great source is the nucleo-albumen of plants. This is a very complex substance contained in many vegetables, especially the green plants. It has a very complex chemical formula, and is polymeric in a high degree. It resembles globulin, but is distinguished from it by the presence of iron and phosphorus, which do not occur in the globulin of animal tissues and fluids.

Now the nucleo-albumen occurs also in animals, but in them this substance is much less complex and is monomeric. The nucleo-albumen of the plant has undergone a change during the process of absorption and metabolism with the production of a certain amount of energy.

A possible anabolic process in the body involving nucleo-albumen is its conversion into hemoglobin and lecithin or similiar compounds. Lecithin becomes a nerve food or is perhaps a nerve stimulant. The explanation of the formation of hemoglobin and the destination of the plant nucleo albumen consumed would thus be possible without having recourse to any of the somewhat far-fetched theoretic considerations that are often appealed to in the discussion of this subject.

Animal nucleo-albumen is more easily digestible and is thus more economic. It very probably supplies its properties to the tissues after absorption more readily than plant nucleo-albumen, but it is a less valuable product for metabolism because capable of undergoing less change and incapable of furnishing all the energy that such chemical changes bring into play. The consumption of larger amounts than the system bears well is necessary in order to keep up the balance of supply and demand in the tissues. Hence, the anemia that often develops in nursing children if they are kept too exclusively on the breast, or in other children if they are limited to a milk diet as they grow older, for in this case they are taking in only animal nucleo-albumen. Hence, too, the necessity for supplying children with vegetable products as soon as they are able to digest them.

In all cases the best results as far as blood making, especially hemoglobin formation, is concerned are secured by a proper mixture of the two kinds of food, animal and vegetable. A proper adjustment of these two classes of diet must be made, especially for anemic people and this is much more important than any other therapeutic measures. It must be remembered that no matter what the form of iron given medicinally the iron absorbed for blood-making purposes all comes from nucleo-albumen.

Now anemia may result either from too free an escape of hemoglobin or from insufficient provision of nucleo-albumen. The first occurs in hemorrhage and is a surgical condition; the second is medical anemia so to speak. This latter form of anemia may be due, first, to an insufficient ingestion of nucleo-albumen, second to insufficient absorption of nucleo-albumen, the sulphur compounds in the intestine uniting with it and making it impossible of absorption; and third, may be due to internal organic disturbance so that the nucleo-albumen though absorbed is not properly used up in metabolic processes. This happens in infectious diseases when, because of the presence of inhibitory conditions organs do not functionate properly, or in liver or renal diseases when toxins are either thrown into the circulation, or are retained when they should be excreted.

For the first form of anemia, that from insufficient ingestion of nucleo-albumen, more food should be taken, and not only the quantity, but also the quality of the food as regards its contents in hemoglobin-forming substances should be regulated. Besides, the digestion and the nervous tone should be improved as much as possible. To give iron in these cases unless there are sulphur compounds present in the intestinal tract which are disturbing the absorption of the hemoglobin-forming material, is apt to be worse than useless, perhaps positively harmful.

In the second case, when sulphur compounds are present, sufficient iron must be given to satisfy these so that the nucleo-albumen and its contained iron may escape their action. For this purpose any, not too stable, iron compound will do. It is not absorbed. Any iron compound that is used will, in its passage through the stomach, be changed into the chlorid of iron. Even the iron albuminates that have been so much lauded of late years are not absorbed. They are not true compounds, but are mixtures of certain loosely combined iron salts with albuminous material. They too are changed into the chlorid in passing through the stomach. It is a saving of energy, therefore, to give the chlorid of iron directly since it alone needs to undergo no change in the system. The chlorid, however, sometimes acts as an irritant to the digestive tract, and then other and less irritating iron compounds may be employed.

Among the most popular of the other forms of iron is Blaud's pill. It is usually tolerated very well, and when fresh is readily converted into the chlorid of iron. It is to be remembered, however, that its use always involves a certain expenditure of digestive energy and uses up a certain amount of hydrochloric acid for its conversion. This warning applies to every other iron compound, whether organic or inorganic, officinal or unofficinal.

A concentrated nucleo-albumen is the best form in which to administer iron compounds. Hemaboloids is a concentrated solution of vegetable nucleo-albumen. This serves the purpose of neutralizing or satisfying the iron compounds in the intestine, and at the same time supplying the natural form for absorption.

It serves excellently the purpose of preventing the destruction of other nucleo-albumens in the digestive tract by the sulphur compounds, for other forms of iron are sometimes slow to act, and the nucleo-albumen is destroyed before they succeed in taking up the sulphur compounds present. This does not happen with hemaboloids. This use of Nature's own method of supplying iron by giving it as a nucleo-albumen is a distinct step forward in iron-therapy. It lifts the subject from the hazy domain of empiricism into the realms of rational therapeutics.

In discussion Dr. Stoll said that for most physicians the administration of iron is mainly empiric but that studies like Dr. Porters' give promise of raising it to the highest plane of rational therapeutics. While the tincture of the chlorid of iron has always seemed to be of most benefit to patients suffering from Bright's disease or from loss of albumen because of albuminuria in general hemaboloids have proved the most useful form of iron. It is of benefit in a greater proportionate number of cases of anemia from all causes than any other form of iron medication. Especially does it seem to do good in cases of chlorosis in which neither the chlorid of iron nor Blaud's pills are effective. One of the disadvantages of Blaud's

pills that is not borne in mind sufficiently, is their liability to be furnished by the pharmacist when not fresh. Old pills of any kind are apt to be inefficient, but of Blaud's pills this is especially true. Perhaps if we could always be sure of a recent preparation there would not be so much to find fault with in the old favorite prescriptions of iron. It is in this respect that hemaboloids is of advantage; it does not seem to deteriorate when kept for a time.

In closing the discussion DR. PORTER said that this matter of the freshness of Blaud's pills when used is extremely important. Old pills have their chemism completely satisfied and they do not take up the sulphur compounds in the intestinal tract and so fail entirely of their purpose.

DR. CARL BECK then read a paper on

SOME IMPORTANT POINTS REGARDING THE PERFECTION OF ASEPSIS.

He said in brief: Asepsis is not a function of the use of strong chemicals, though any number of lively drugs have of late years been vaunted for the purpose; it is rather the result of the most scrupulous care in cleanliness. Instruments, ligatures, and all the cloth material that is liable to come in contact with the patient may now be sterilized perfectly. Certain other things still remain in which to secure asepsis, and this is a more difficult matter. Of these the atmosphere claims attention first. It used to be considered the great carrier of infection. We now know that it is seldom the source of the septic material in a case where infection takes place. Any number of micro organisms exist in the air, but by far the vast majority of them are not pathogenic and many of those that are pathogenic exist under forms that are not very virulent.

Pathogenic micro-organisms that get into the air settle to the floor. It has been shown that the heavier bacteria settle in an hour, the lighter forms in two to three hours. Hence there should be no disturbance of the dust in an operating-room for several hours before an operation. It is advisable also to have the air of the operating-room saturated with moisture, for then microbes do not float in the air. This may be accomplished by having a kettle steaming in the room for several hours before the operation.

The air expired by the healthy surgeon in quiet expiration contains as a rule practically no bacteria. If the surgeon has a tonsillitis or a rhinitis his breath is not free from bacteria. If he talks or coughs bacteria are projected into the air, sometimes in considerable numbers. During an operation the old proverb, "Speech is silver, silence is golden," is especially true. Assistants at an operation should so know their business so well that they can anticipate the wants of the surgeon, or are able to understand the slightest sign. They should not need to be spoken to. Bacteria in the skin of the patient and surgeon may be removed by patient scrubbing with soap and water. Alcohol should be freely used in the cleansing process because it removes the grease, which is a favorite abiding place for the bacteria. It is probable that strong antiseptics, such as lysol and bichlorid really do very little good. The trouble in cutaneous asepsis, however, is that the bacteria collect below the surface of the skin in the various cutaneous glands. These cannot be removed. Even pyogenic bacteria may be harbored here, and they are a fruitful cause of stitch abscesses and the like. They may cause suppuration in a wound that has been made with the most careful attention to the minutiæ of asepsis.

These microbes cannot be got rid of directly, but the dangers they may give rise to can be avoided. The knife with which the skin incision is made should be changed, and the hands washed immediately after the skin incision is completed. If gloves are worn they should also be changed. After the operation the incision should be brought together by subcutaneous sutures, the skin edges being coaptated last of all. If sutures for the relief of tension are a necessity they should be inserted from three-fourths to one inch from the line of incision.

As to the hands of the surgeon, as no incision is made beneath the surface of the skin, carefully washing will suffice. If much force is used in manipulation the hands should be washed afterward lest pathogenic bacteria should have been squeezed out of the gland crypts. If the operation lasts long the hands should be washed several times.

Of course in the matter of infection predisposition plays an important rôle. Some constitutions are able to effectually dispose of considerable infective material without the slightest inconvenience resulting to the individual. No rules for the prevention of a predisposition to infection can be formulated and the surgeon must therefore be careful at every point. Rubber gloves during an operation are a help in maintaining asepsis and should be employed. Especially are they of service when the surgeon's fingers must be put into places that swarm with bacteria, as the rectum, or in manipulations in abscess or other septic cases. How much simple cleanliness can accomplish in warding off infection is evidenced by the life work of the late Lawson Tait. Manipulations that require much force should be carried out instrumentally. Forceps, for instance, should be employed in tying sutures, and a needle-holder rather than the fingers in forcing a needle through the tissues.

It must not be forgotten that manipulative skill still counts for much in preserving the patient from opportunities of infection. Any one who saw Langenbeck operate in the preaseptic days and followed his cases in order to note the results he obtained, would realize how much this skill in surgical manipulation availed in his hands. The short duration of the operation, the gentle handling of the tissues, the sharpness and perfection of his instruments, counterbalanced in a way the shortcomings of his asepsis. He was able, as a consequence to do some exquisite and very successful plastic surgery. This faculty of skilful surgical manipulation must be carefully cultivated now, too, by any one who would do ideally successful surgical work.

In the discussion which followed DR. GARRIGUES said that Dr. Beck's suggestion as to the way to get around the bacteria in the lower layers of the skin is a most in-

genious one, and comes in the manner of a revelation. It is the Columbus'-egg expedient of a difficult problem. We cannot get at these deeply situated bacteria, and the suggestion to use a second knife for all incisions beneath the skin is most promising and suggestive.

The danger he suggested from the bacteria contained in the mouth if the surgeon should talk is no merely theoretic scarehead, but a very real peril. It has been noted experimentally that during moderately loud speech bacteria may be projected several yards from the mouth. Alcohol is fortunately regaining the place that it used to hold as an antiseptic. A good while ago it was thought much of, and then its use was given up for a time. Ahlfeld, in the last edition of his "Treatise on Obstetrics," says that it is the most efficient of antiseptics, while being absolutely harmless. Used in ninety-five per cent. strength it will destroy any of the ordinary pathogenic bacteria in a very short time. For skin disinfection it is best used on strips of flannel. Surgical dexterity is undoubtedly of the greatest service in lessening mortality both because of lessened danger from infection and because the patient is submitted to less actual risks during the operation. Another important factor in reducing operative mortality is skill in anesthetizing. The presence of visitors at operations always increases the risks and it is good that Dr. Beck calls attention so forcibly to it once more.

In closing the discussion Dr. Beck said that it seems to have been proven that fifty per cent. alcohol is quite as effective as a germicide, as is ninety-five per cent. alcohol. The difference in price would make quite an item in hospital expenditures. Alcohol is mainly useful in removing grease to which bacteria persistently cling. Visitors are dangerous at an operation, not because of the bacteria their breathing may scatter around, but because of the liability ever present that they may come in contact with towels and other things afterward to be handled by the surgeon, or be used on the patient. Gentle exhalations contain practically no bacteria of surgical importance.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Abstract of the Proceedings of the Twelfth Annual Meeting, Held at Indianapolis, Indiana, September 19, 20, and 21, 1899.

(Continued from page 448.)

Second Day—September 20th.

The President, Dr. Edward J. Ill of Newark, N. J., in the Chair.

Dr. Walter B. Dorsett of St. Louis, Mo., read a paper, entitled

Shall we abandon ventrofixation of the uterus?

The essayist had performed thirty-eight ventrofixations. Four of the patients have borne children without any of the usual troubles reported in pregnancy or during the delivery of the child. Eight of the operations were performed to correct different degrees of prolapsus, and the remainder were for retroflexion and retroversion.

Dr. X. O. Werder of Pittsburg reported

Five cases of firm ventrofixation followed by delivery at term.

In two cases dystocia followed the operation which was performed for complete prolapse of the uterus with inversion of the vagina. One case terminated spontaneously, the other patient required Cæsarian section. In both cases a number of operations were performed at one sitting, including curettement, amputation of the cervix, anterior colporrhaphy, ventrofixation, and perineorrhaphy.

Dr. H. W. Longyear of Detroit presented a paper, entitled

A simple, effective, and esthetic operation for shortening the round ligaments.

The operation was first brought to his attention in 1897 by Dr. J. H. Kellogg.

1. The incision is made about an inch in length, somewhat shorter in thin subjects, parallel with and just above Poupart's ligament, and with its outer end about half an inch inside the internal ring. It should pass through skin, superficial fascia, and fat down to but not including the loose tissue which overlies the tendon of the external oblique. An incision of this length and situated as directed will be practically bloodless. If begun too far back, a branch of the superficial epigastric artery may be severed, and if too far forward, a branch of the superficial external pudic artery will be encountered, while if carried beyond the layer of fat, veins will be cut which will cause the field of operation to be more or less obscured. The location of the internal ring is determined by the pulsation of the femoral artery which passes just under it.

2. The separation of the wound transversely by the use of eye-retractors mounted on long handles.

3. Clearing away the loose tissue overlying the tendon of the external oblique by pulling it from side to side longitudinally with the wound with blunt hooks, and catching with the retractors each successive layer as it is raised up by the hooks. The blood-vessels in this tissue are thus pulled back and held out of the field of operation. With the retractors holding back the tissues a field of about one inch square in size is presented, with the smooth white, glistening aponeurosis forming the tendon of the external oblique, at the bottom. Its oblique fibers can be usually easily traced to their junction with Poupart's ligament. By moving the retractors in various directions, being careful at the same time to keep the tissues within their grasp, a much wider field may be inspected, if necessary.

4. Puncture, one-quarter of an inch in length, of the tendon of the external oblique, with the scalpel, at a point just above Poupart's ligament, and at the outer aspect of the cleared space.

5. Insertion of the blunt hook, which should be passed downward close to the floor of the inguinal canal, then inward and upward, and the ligament with its surrounding investment of fat will be brought up out through the opening in the tendon.

6. Isolation and pulling out of the ligament, which is facilitated by stripping back the adipose and cellular tis-

sue with blunt-pointed forceps as it emerges through the opening, and, if necessary, cutting with scissors any tendinous attachments which impede its freedom. Care should be preserved during this maneuver not to cut the cuff-like prolongation of peritoneum which forms the canal of Nuck, and which is usually dragged from the internal ring, and makes its appearance as the ligament nears the uterus. If the ligament still comes out easily, its attachments can be carefully snipped with the scissors and the cuff rolled back.

7. The anchoring of the ligament is done by means of silkworm-gut or kangaroo-tendon sutures which are passed from the skin surface, and which also serve to close the wound, although superficial catgut sutures for the latter purpose are also used. The loop of ligament, which will be from two to four inches in length, is held up by the assistant while its proximal portion, as it emerges through the opening in the tendon, is made fast to this structure by the suture which is passed first through the aponeurosis, then the ligament, so as to grasp about two-thirds of it, and then the aponeurosis on the opposite side, and left untied. An aneurism needle is now passed in and out through the aponeurosis of the inner aspect of the wound, and through these two opening the loop of ligament is drawn by means of a heavy silk thread, turned backward upon itself and made fast to the aponeurosis and ligament by passing the loose suture through both sections and tying. The one strand of kangaroo tendon or silkworm-gut is thus made to pass through the ligament three times and fasten the bunch together to the aponeurosis, in which position Nature will soon make permanent fixation.

8. The wound is closed with fine catgut, using the buttonhole stitch, after which the wound is sealed with iodoform collodion, reinforced with a layer of gauze, which is saturated with the collodion, thus making a firm and impervious seal. Before using the collodion, the surface of the skin where it is to be applied should be bathed with sulphuric ether, which removes any oily material, and thus insures the firm adhesion of the seal. A thick pad of gauze and a T-bandage completes the dressing. The seal is removed after the tenth day, and as it is stripped off, the catgut sutures, which by that time are absorbed beneath the surface, come away with it. The time required by this method of operating is very much less than by the Alexander method.

Previous to operation a suitable pessary should be fitted for holding the uterus in anteversion during the operation, and this should be left in position with occasional inspection for three months afterward.

Dr. Charles A. L. Reed of Cincinnati then delivered the memorial address on Lawson Tait, the great Scotch surgeon of Birmingham, England, who died at Llandudno, Wales, June 13, 1899, and who was an honorary member of the Association.

The President's Address was delivered by Dr. Edward J. Ill of Newark, N. J. He selected for his subject

THE RIGHTS OF THE UNBORN; THE PREVENTION OF CONCEPTION.

He said an abuse, fostered by the security that aseptic surgery gives us, has gradually crept into the work of many physicians all over the civilized world. The rights of the unborn are often not respected as they should be and as a strict regard for truth, conscientiousness, and careful professional thought on our part would indicate. The rights of the unborn would be more respected if it could secure for itself competent legal authority to represent it before a court of law.

The induction of abortion is performed too frequently; the law and custom of consultation leave a wide field for opinion, judgment, and professional courtesy. Too frequently the practitioner's sympathy runs away with his reason. The frequent deaths of the unborn as caused by the regular profession legitimately must ever remain a sign of weakness and impotence of an otherwise noble and humane profession. The indication for such an operation must greatly change with the advance of therapeutics. Before long we shall be told that the life of the fetus must not be taxed less than that of the mother. When that becomes an axiom our resources will increase to an astonishing extent. Changes in that direction have been very apparent during the past few years.

RETROPERITONEAL TUMORS, WITH REPORT OF A CASE AND PRESENTATION OF SPECIMEN.

Dr. Rufus B. Hall of Cincinnati read a paper on this subject, in which he said that retroperitoneal tumors that are operable are rare. His experience in dealing with them as far as the removal of the tumor is concerned has been limited. All retroperitoneal tumors are difficult to remove and the operation is attended by a high mortality. They are often malignant.

Dr. James F. W. Ross of Toronto read a paper, entitled

RUPTURE OF THE PUERPERAL UTERUS, WITH REPORT OF CASES.

The essayist said that it is well known that rupture of the uterus might occur before or during labor. To diagnosticate a rupture of the uterus before labor is extremely difficult. It is a subject about which very little is known. The cases under discussion were not those before labor, but those occurring at the time of labor. Every practitioner should be familiar with the symptoms of this condition so as to be able to recognize it at as early a date after its occurrence as possible. He then mentioned the different causes of rupture of the uterus that are well known. He stated that the question as to whether rupture of the uterus occurs more frequently in the first or in subsequent labors is still one that has not settled. Some authorities claim that rupture is more frequently met with in primiparæ than in multiparæ; others claim it is more frequently met with in multiparæ than in primiparæ. Some state that rupture of the uterus may take place before the membranes have been ruptured. He considers that the duration of labor has a great deal to do with the production of rupture of the uterus as the organ seems more prone to tear after its structure has become impaired by continual and prolonged contraction. The fundus is less frequently ruptured than the body, and the body less frequently ruptured than the cervix.

The posterior wall of the lower segment seems to be the commonest site of rupture and the tear is generally found to run toward the left. These tears usually extend over a distance of three or more inches. He considers that cases of rupture of the uterus might be divided into four groups: first, those which are beyond hope from the beginning, in which the patients have the usual classical symptoms of rapid pulse, dyspnea, precordial uneasiness, nausea, vomiting, and cold perspiration. Second, those cases which, owing to delay, have passed beyond the operable stage, the patients having become ill with commencing septicemia and peritonitis, the peritonitis and septicemia drawing attention to the case, and this extra attention revealing the fact that rupture of the uterus has been present without giving rise to early symptoms to indicate its existence. Third, a class of cases in which rupture is not immediately fatal, in which it is early recognized, and in which the patient is in good condition for operative interference. Fourth, a class of cases in which rupture is never recognized, but in which septic symptoms develop without any evident reason. In a case in which a very rapid pulse follows a fairly severe labor and peritonitis sets in, rupture of the uterus must be considered when endeavoring to discover the cause of the abnormal course of the puerperium.

Intraperitoneal hemorrhage can be diagnosticated by percussion in the loins. The essayist stated that he had diagnosticated intraperitoneal hemorrhage in this way on several occasions. The percussion sound may change as a consequence of the changed position of the clot, and when it does change it does so slowly.

In summing up the treatment of these cases he said that it is necessary to treat them according to the class to which they belong. In the first class the patient is practically moribund before the physician in charge can call counsel. In the second class of cases, in which there are no symptoms to indicate that rupture of the uterus has occurred, the treatment must vary from that carried out in the third class. The treatment in the second class is that indicated in the cases reported, namely, thorough drainage and thorough cleansing from below. He considered that an abdominal operation under such circumstances would be unfavorable and injurious to the patient. Already adhesions have formed to protect the general peritoneal cavity, and these must of necessity be broken down and increase the risk. In the third class of cases, in which rupture is recognized, in which the patient is not moribund from shock and hemorrhage, there can be but one line of procedure to carry out, namely, celiotomy, thorough inspection of the parts, removal of blood-clot from among the intestines, thorough stoppage of hemorrhage from the wound either by approximating sutures or gauze packing, and the establishment of thorough vaginal or abdominal drainage, or both. In the opinion of the essayist, suturing the rent is scarcely called for, as by this procedure the operation is unnecessarily prolonged, and the length of time consumed by such an operation is of importance. Any one who has had experience with this tragedy of the lying-in ward must have noticed that the edges are so bruised as scarcely to hold a suture. To pare them off means increased hemorrhage and increased delay. He prefers packing with gauze, and is satisfied that the uterus afterward becomes perfectly normal. Hysterectomy under such circumstances must prolong the operation, increase the shock, and unsex the patient.

WOUNDS OF THE LIVER AND BILIARY TRACT.

Dr. W. E. B. Davis of Birmingham, Ala., read an interesting paper on this subject, in which he said that penetrating wounds of the liver are not common. The surgeon may inflict such injuries in the treatment of hydatid cysts and abscesses of the liver. Severe wounds usually prove fatal. There is often injury to the biliary canals of the liver, and the extravasation of bile contributes to the fatal issue. He reported three cases illustrating injuries produced by the surgeon.

He also reported the case of a woman, sixty years of age, whose symptoms indicated obstruction of the common duct. The liver extended almost to the umbilicus. No nodules were to be made out on the surface. There being no obstruction in the common duct, it was decided that the obstruction was in the hepatic duct or its branches. A free incision was made into the right lobe of the liver with the hope of opening some of the biliary canals and thus relieving cholemia. Death occurred a few days after from exhaustion. The patient was almost in a dying condition at the time of the operation. A large malignant nodule was found at the autopsy in the transverse fissure, which completely obstructed the branches of the hepatic duct.

Third Day—September 21st.

Dr. John Milton Duff of Pittsburg contributed a paper on

HEMORRHAGE AND THE MENOPAUSE.

The essayist does not believe that hemorrhage is a necessary concomitant of the menopause. When it does occur other than as a metrorrhagia in the true sense of that term, it is in ninety-five per cent. of the cases significant of a pathological condition. During the past three years he has interrogated 482 healthy women over fifty-two years of age. Of these only 39 gave a history of what could be termed a hemorrhage during the menopause, and out of this number only 5 gave a history of hemorrhage of any persistency. In 187 tabulated cases, of women between forty three and fifty years of age, suffering from uterine hemorrhage, 19 were due to pregnancy, 48 to malignant disease, 53 to fibroids, or uterine cysts, 10 to diseased endometrium, 26 to diseased appendages, while in 31 no positive diagnosis was made. In view of such statistics the author fails to see how any physician can argue, as he had heard them do, that hemorrhage during the menopause is not as a rule significant of disease.

REPORT OF FOUR ADDITIONAL CASES OF UTERINE FIBROIDS COMPLICATING PREGNANCY.

This was the title of a paper by Dr. M. Rosenwasser of Cleveland, Ohio. The report formed the basis of a discussion of the subject under the following headings:

I. Before delivery. (*a*) In the interest of mother and child. (1) Non-intervention; (2) myomectomy; (3) Porro operation; (4) vaginal Cæsarian section. (*b*) In the interest of the mother. (1) Induction of abortion; (2) hysterectomy.

II. After delivery. (*a*) Non-intervention. (*b*) Hysterectomy, indicated by recurrent hemorrhage, and septic infection.

Non-intervention is recommended whenever, on account of its location, the tumor does not interfere with delivery, or when its moderate growth will admit of delay until viability of the child. Myomectomy for pedunculated fibroids is a safe procedure; but the enucleation of fibroids before viability risks the life of the child, as abortions are frequent. After viability it is indicated when it is desirable and possible to preserve the uterus, or during labor when a myoma of the cervix obstructs the pelvis and cannot be dislodged. The Porro operation is the safest procedure after viability of the child, or at term if the tumor obstructs delivery and if the uterus must be sacrificed. Vaginal Cæsarian section, as proposed by Dührssen, has not yet been tried. Induction of abortion is considered more dangerous and less readily controllable than hysterectomy. Distress from abdominal distention or pressure, interference with vital functions, or great and constant anxiety may require hysterectomy as an emergency operation. When the tumor is located in the lower segment of the uterus, or in the anterior lip of the cervix, or in the broad ligament, and encroaches on the pelvic space so as to constitute a barrier to delivery, the patient is entitled to her choice of time of intervention, whether before or after viability of the child

After safe delivery only distinct indications warrant any intervention. Post-partum hemorrhage and sepsis should be managed the same as though no tumor were present. Hysterectomy becomes necessary during the puerperium when the hemorrhage cannot be permanently checked, or before infection or sloughing of the myomatous uterus, or the retention of the secundines has led to general acute septicemia.

DR. J. HENRY CARSTENS of Detroit read a paper on

THE TECHNIC OF ABDOMINAL HYSTERECTOMY,

and was followed by DR. CHARLES STOVER of Amsterdam, N. Y., who contributed one on

THE TREATMENT OF INERTIA AND SUBINVOLUTION.

The practice of discharging puerperal patients after the third day, with the direction that if anything goes wrong the doctor is to be recalled, deprives the lying-in woman of an opportunity for the detection of subinvolution. The stasis of the circulation and absence of muscular contraction lead to metritis, endometritis, retroflexion and prolapsus. Muscular contraction may be secured by the physician at all stages of labor to overcome inertion and during convalescence to prevent subinvolution. In the treatment of inertia during the first stage of labor, ergot is to be condemned, and rest secured by sleep. In the second stage, instrumental delivery will usually be indicated, but the slowly interrupted faradic electrical current is useful, selecting the primary current when the secondary may be painful. Strychnin is to be given in doses of $\frac{1}{20}$ to $\frac{1}{40}$ of a grain, repeated in two hours if necessary. Ergot is not advised save in exceptional cases, and then in doses of 5 minims every fifteen or thirty minutes. In the third stage, when post-partum hemorrhage may have complicated the situation, after coagula have been turned out and secundines removed beyond doubt the faradic current is of great value. It may be applied with one pole over the abdomen, and one at the lumbar spine. This is usually sufficient, but the intra-uterine bipolar application may accentuate its efficiency. The telescopic electrode invites sepsis. Ergot should be given hypodermatically. Manual compression and massage should not cease for an instant. The treatment of subinvolution presupposes the exclusion of endometritis, fibroids, retained secundines or any pathological state, the condition being distinguished by stasis and muscular inaction. The interrupted faradic or galvanic current is to be used daily. Hot-water douches, as outlined by Emmet, are of value. Boroglycerid tampons, daily or every other day, are likewise helpful by depleting the tissues. Ergot is still of use, particularly in sthenic and rheumatic subjects when combined with the citrate of potassium as used by Lawson Tait, in doses of ½ dram to 1 dram in half a pint of water four times daily an hour before meals and at bedtime.

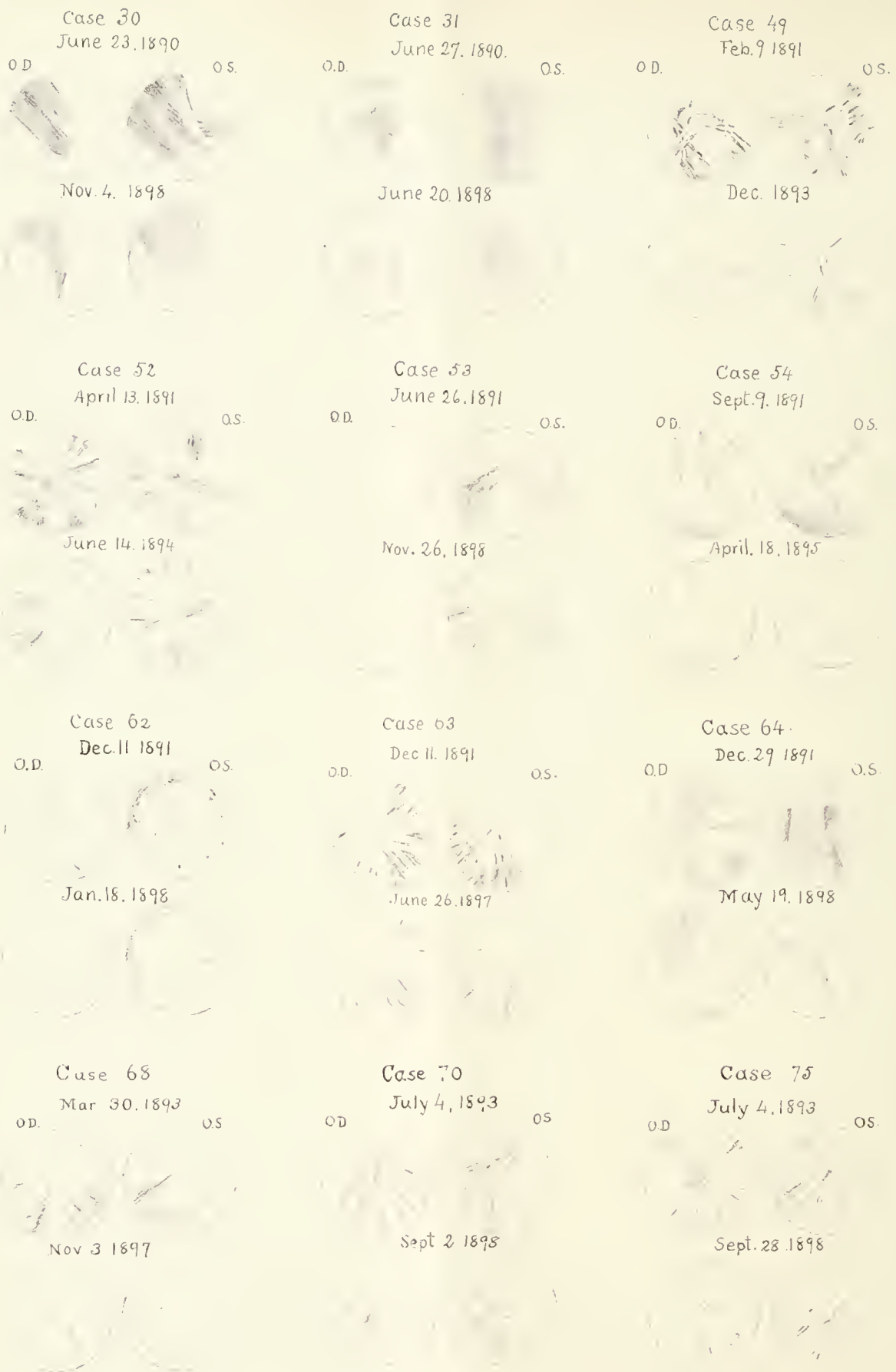
CHOICE OF METHOD FOR TOTAL HYSTERECTOMY, AND SOME POINTS OF TECHINC

was the title of a paper contributed by DR. B. SHERWOOD-DUNN of Boston, Mass., in which he compared the abdominal operations of Richelot, Le Bec, Doyen, and Martin, with the American method, much to the favor of the last named, and emphasized the advantages of the preservation of the cervix by giving five reasons in its favor: First, prolonging of operation because of hemorrhage from the lateral and posterior vaginal arteries and closing of vaginal opening. Second, danger to the ureters. Third, in some women the os and cervix are the seat of sexual pleasure. Fourth, the cervix forms an integral part of the pelvic floor. Fifth, the opening into the vagina increases the chances of infection.

INTRAPELVIC ADHESIONS.

This paper was contributed by DR. WALTER B. CHASE of Brooklyn, N. Y. Any surgeon of experience can recall not a few cases in which adhesions were the principal factors of trouble, often only relieved on opening the pelvic cavity. The symptoms sometimes are apparently out of all proportion to the gravity of the conditions existing. We have encouragement in the future in the use of Dr. Skene's electrohemostatic method. To prevent the formation of new adhesions, leave as little raw surface as possible, use absorbable ligatures, and wash with normal salt solution what raw surface cannot be covered.

The following officers were elected for the ensuing year: President, Rufus B. Hall, Cincinnati; first vice-president, L. D. Dunning, Indianapolis; second vice-president, T. J. Crofford, Memphis; secretary, William Warren Potter, Buffalo; treasurer, X. O. Werder, Pittsburg. Place of next meeting, Louisville, Kentucky, 1900.



Lenticular opacities before and after treatment by conjoined manipulation and instillation. (Kalish.)

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ORIGINAL ARTICLES.

THE ABSORPTION OF UNCOMPLICATED IMMATURE CATARACT BY CONJOINED MANIPULATION AND INSTILLATION.[1]

BY RICHARD KALISH, M.D.,
OF NEW YORK;
OPHTHALMIC SURGEON TO THE CITY HOSPITAL; CONSULTING OPHTHALMIC SURGEON TO THE BOARD OF HEALTH AND TO THE J. HOOD WRIGHT MEMORIAL HOSPITAL.

NINE years ago my first paper on this subject was read at a meeting of the Section on Ophthalmology of the New York Academy of Medicine, and a few months later my second paper was presented at the annual meeting of the County Medical Society. These papers were hurriedly prepared to forestall the publication, in a religious weekly, of a description of this new method of treating cataract. The presentation of these papers, and their almost immediate publication in the *Medical Record* put a quietus on the mistaken zeal of these patients and the announcement to the profession was thus made through the regular channel of communication. Although this announcement was so prematurely made, the widespread interest it aroused and the active investigation it provoked demonstrated how great was the need of some method of treatment that would arrest the progress of immature cataract. Since that preliminary report was made a sufficient period has elapsed to practically demonstrate the permanency of the results obtained from the treatment then advocated, and to determine the varieties of immature cataract that will respond favorably to the treatment.

Certain important considerations must be referred to and explained in order that the scope of this report be clearly understood. As uncomplicated cataract I define all cases unaccompanied by systemic or local disease, and as illustrative types of the former I would instance, diabetes, nephritis, etc., while as local pathologic change I would mention keratitis, retinitis, etc.; but as to whether arthritis—rheumatic or gouty—be a complication, I am not prepared to state and must leave this matter for the present, *sub judice*. An error of refraction is an accompaniment, not a complication.

The extraction or absorption of cataract has a single object in view: the restoration of vision to as great a degree of usefulness as it is possible to obtain. Therefore, in mature cataract, if light projection be faulty an operation is advised only in cases of complete blindness, when even an imperfect result will give a more serviceable eye than would the retention of the opaque lens with its accompanying blindness. So in the absorption of cataract, the treatment is never undertaken except there be an absence of concomitant local or constitutional troubles. The reason is obvious, as good and useful sight could not be obtained. This is established by the following observations:

CASE I.—The patient was referred to me from a neighboring city, with a history of commencing cataract treated by his physician for more than a month by my method. The lens opacities had cleared markedly, but only a slight improvement in vision had been obtained. Ophthalmoscopic examination revealed an extensive albuminuric retinitis, with consecutive atrophic condition of the optic nerves. The diagnosis of nephritis was corroborated by a general examination. Uremic symptoms followed and death, in uremic coma, supervened about two and one-half years after my first examination. Three months before his death ophthalmoscopic examination of the lens failed to disclose any advance of the cataractous process.

CASE II.—This occurred in a very robust and muscular man, aged fifty-four years. There was a general haziness of both lenses, with denser streaks running from the edge to almost the center of the lens. It was impossible to obtain a view of the deeper structures; but after a treatment lasting about six weeks the haziness had diminished enough to allow me to diagnosticate pigmentary retinitis, and the patient then admitted that he had experienced the usual symptoms of this disease. Five years after the treatment there was no advance in the process of opacification.

CASE III.—Patient about sixty-five years of age. Lenses hazy, and a clear picture of the fundus could not be obtained. After about six-week's treatment it was possible to make a diagnosis of glaucoma simplex. The lenses have remained clear since treatment was given, more than three years ago.

We must thus conclude that the restoration of useful sight being the paramount desideratum, any complication which, independent of the lenticular opacity, diminishes visual power, contraindicates any form of treatment.

The popular conception of cataract held by the profession, and universally by the laity, is that it is a disease of old age, a deviation from mature vigor, and that it necessarily accompanies gray hair, tooth-

[1] Third paper. Read at a meeting of the Northwestern Medical and Surgical Society of New York, January 18, 1899.

lessness, and a tottering gait. This I unhesitatingly deny. It is well known that with advancing age the lens hardens and from a state of transparency may become almost amber-colored; but only in a very small percentage of cases does a degree of opacity ensue that is sufficient to produce enfeeblement of vision. It is likewise an undisputable fact that in many persons advanced in life, with positive evidences of general senility, we find the transparency of the lens absolutely unimpaired. In a small number of cases senility probably does play its part, and such patients should receive the same local and constitutional treatment that is given to subjects of other senile diseases. In the majority of cases of immature cataract, even in those in which advanced life may be an accompaniment, the absence of a single feature of senility, and the presence of rugged health and great physical and mental endurance plainly demonstrate the palpable error of regarding the occurrence of lenticular opacities as evidence of senile change; and holding to this opinion I have omitted the word senile and refer to my cases as uncomplicated immature cataract.

Two great factors enter into the production of incipient and immature cataract, namely, interference with the nourishment of the lens, and eye strain, acting independently or in combination. The lens is avascular and receives its nourishment by imbibition; hence, anything which interferes with the supply of blood to the choroid interferes proportionately with the acquisition of a supply of restorative material to the lens. In my paper above referred to I noted that in the great majority of my cases of cataract increased tension was observed, and this observation has been confirmed by the larger number of cases seen since that paper was written. Increased tension means increased intra-ocular pressure, which even in a slight degree must seriously interfere not only with the blood circulation, but with the liquid secretions as well. The veins being less resilient than the arteries would naturally be more easily compressed, and would be unable to empty the eye of its venous blood, thus damming back the arterial blood and decreasing the ingress of the arterial supply, that is, of the nourishment-bearing stream, which would thereby cause a serious interference with the nutrition of the ocular tissues. Consequent upon this retardation and diminution of the arterial supply the absorbent system suffers a marked functional inhibition, hence those structures dependent upon inhibition for papulum would from force of circstances be the first to suffer physical deterioration.

To the ill effects caused by a lessened supply of nourishing stream we must add another element in the abnormal constituents of the liquids which encompass the lens as shown in the following: In the paper above referred to I traced a connection between immature cataract and dyspepsia, which relation I desire to strongly emphasize. The term dyspepsia I employ in a generic sense, implying thereby not only imperfect digestion, but also the protean manifestations of incomplete digestion, decomposition, and degeneration of food, gastric or intestinal, or both. The ingestion of food is primarily for the purpose of renewing the tissues consumed in performing their functions. When, however, through defective metabolism this papulum is improperly prepared and noxious substances instead of nutrient material are elaborated, the whole general system suffers from a lack of restorative supply to replace the worn-out tissues, and it also suffers from a deposit in the tissues of excrementitious principles which if resorbed may cause auto-infection. Faulty metabolism is justly regarded—except by the minority which discovers micro-organisms as a causative factor in the production of every disease—as the chief determining cause of rheumatic and gouty arthritis, and since these products of disassimilation attack the avascular structures of the articulations it is certain that other structures similarly devoid of vascular supply, as is the crystalline lens, would likewise suffer an interference in constructive metamorphosis, and a corresponding interference in function. Imperfect metabolism must necessarily produce an abnormal nutritive fluid, and it is incontrovertible that if the lens be continuously immersed in a liquid which lacks elements necessary for the regeneration of its crippled cells, and contains agents likely to poison its healthy ones, its structure must undergo degenerative change, the first step of which undoubtedly is opacification.

That eye strain plays a most important rôle in the causation of cataract is generally admitted. The marked enervation so universally recognized as its accompaniment is direct evidence of its power to interfere with constructive metamorphosis, the consequence being that waste and repair become disproportioned and deterioration of structure occurs.

Subsequent to the publication of my articles above referred to, a new theory was deduced to account for the improvement in vision in cataractous eyes. The marvelous discovery was made that cataracts following a "natural" course remain stationary, more or less, and acuity of vision is increased. This was surprising; and as my observation of the progress of cataract had influenced me to adopt views diametrically opposed to this new theory, I subjected my records of cases of cataract seen prior to 1890 to a critical analysis, the result of which is here appended. The whole number of eyes seen was 35,

occurring in 21 patients. In 20 eyes the cataracts matured and the lenses were extracted. The shortest period between the first examination and the operation was about 18 months, and the longest period about 7 years. Fifteen eyes which did not mature thus remain, and 13 of these patients paid the last debt to Nature at periods varying from three months to five years following the examination. Ten of these showed decided advancement of the lenticular opacity, and a corresponding reduction in vision for distant as well as for near objects, and would undoubtedly have required operation later, had not intercurrent maladies carried them away. The remaining 3 passed away within less than a year after examination and conclusions are unjustifiable. There thus remain for final consideration two subjects, one of whom had been under observation for seven years before coming to me and remained under my observation for six years when an attack of pneumonia finished her earthly career. In the other case there was a general haziness of the lens, but good sight was retained up to the end, about seven years after I first saw the patient. The ophthalmoscopic picture in these two cases seemed from time to time to vary little if at all, but in neither case was there recession.

Analysis of these figures reveals that out of thirty-two eyes—the three patients that died so soon after examination must be eliminated—only two showed no signs of progression. With this personal experience as a guide, and personal experience is the only safe one, I dare not, to suit any fantastic whim, adopt as my motto, "*Ex duobus disce omnes.*"

In the further discussion of this peculiar and erroneous notion one is led to ask if due care were exercised in making the examinations of the patients who improved so "naturally." That nine were cases of cataract is beyond question, since they advanced to maturity, and ripened cataractous lenses were extracted. It is not unusual for patients to consult me having a "ready-made" diagnosis of cataract. This diagnosis is rarely made by a physician, but by some officious friend who instances identical cases in common friends. Eight such patients presented themselves during the past year; three had chronic conjunctivis, two had corneal ulcerations, one had corneal opacity, and two had acute iritis. According to its discoverers, the "natural" course of cataract, eventuates in an improvement of vision and an arrest of opacification of the lens. It then follows *a priori*, that cataracts will not ripen nor will operative interference be required. Just here a troublesome question obtrudes its ugly personality: If Nature prevents, even in a moderate degree, the maturity of cataracts, where do all the ripe cataracts come from? In three public hospitals of this city during the past year 494 cataracts were extracted, requiring 633 operations. This number is independent of that larger number operated upon in other institutions in this and in other surgical centers, as well as of those treated in private hospitals and at patients' homes, the whole number of which will assuredly reach into the thousands every year. Since it cannot be controverted that this is the outcome of the "natural" course of cataract, no one will deny that oculists must do something to interfere with Nature, and that something must be done right speedily.

My contribution to that something is the presentation of this my third paper on the absorption of immature cataract by conjoined manipulation and instillation. Reference will be made chiefly to the patients treated prior to January, 1894. Seventy-six patients (one hundred and thirty eyes) were treated between January, 1889, and January, 1894. Seven of these patients (thirteen eyes) passed away at dates varying from two to seven years subsequent to the treatment, all to the end having retained the benefit received. Two cataracts that matured were successfully removed by surgical aid. Advanced immature cataract in six eyes did not respond, the process being held in abeyance for a time; but later they ripened and extraction was performed. One case of advanced immature cataract in a patient with rheumatic arthritis was checked for a time, but afterward passed on to maturity and the lenses were extracted.

In making an estimate of the successful cases we must add to the number of patients living those who retained the benefit of the treatment up to the time of their death, and we thus have sixty-nine successful results with one hundred and eighteen eyes. To present the result of refraction examination of each one of these one hundred and eighteen eyes would require more space than should be devoted thereto, besides offering a mass of figures that would be simply bewildering; therefore, the following tabulation is submitted.

Thus in 12 eyes out of 130 the treatment availed nothing. Of these 12 there are 2 concerning which I have no information, but the remaining 10 were subsequently operated upon successfully. The cases treated from January, 1894, until January, 1898, one year ago, show a higher percentage of success, but statistics are not given, as the only question at issue is that relating to the permanency of the result obtained and this requires time for its demonstration. I am fully convinced by personal experience that the treatment of immature cataract by conjoined manipulation and instillation will pro-

duce a permanent and successful result, despite interested or farcical criticism to the contrary, but that it will modify every case I am not sanguine enough to expect until all humanity is cast from a single mold. It can be declared without fear of contradiction that while some are tall in stature and some short, some adipose in build and some spare, some fair in complexion and some dark, no single

Number of Eyes.	Sight at First Examinat'n	Corrected Sight at First Examination.	Sight After Treatment	Corrected Sight After Treatment.
16	less than $\frac{20}{200}$	$\frac{20}{200}$—$\frac{20}{70}$	$\frac{20}{200}$—$\frac{20}{50}$ $\frac{20}{40}$—$\frac{20}{30}$ (2 cases)	
	$\frac{20}{200}$	$\frac{20}{100}$—$\frac{20}{70}$	$\frac{20}{100}$—$\frac{20}{50}$ $\frac{20}{40}$—$\frac{20}{30}$ one case	$\frac{20}{20}$
17	$\frac{20}{100}$	$\frac{20}{100}$—$\frac{20}{50}$ one case	$\frac{20}{40}$—$\frac{20}{30}$ $\frac{20}{50}$—$\frac{20}{30}$	one case
18	$\frac{20}{70}$	$\frac{20}{70}$ $\frac{20}{50}$ $\frac{20}{40}$ one case	$\frac{20}{50}$—$\frac{20}{40}$ $\frac{20}{50}$—$\frac{20}{30}$	$\frac{20}{20}$
32	$\frac{20}{50}$	$\frac{20}{50}$—$\frac{20}{40}$ $\frac{20}{30}$ five cases	$\frac{20}{50}$—$\frac{20}{30}$ $\frac{20}{50}$—$\frac{20}{20}$	one case each
26	$\frac{20}{40}$	$\frac{20}{40}$ $\frac{20}{20}$	$\frac{20}{40}$—$\frac{20}{30}$ $\frac{20}{30}$—$\frac{20}{20}$	$\frac{20}{15}$—$\frac{20}{10}$

specific for any one disease can possibly be found.

Several other methods of treatment, modifications of my plan, have been suggested and exploited since my papers were published, but I have still to find one that will do for my patients what conjoined manipulation and instillation have done. The instillation of a solution of eserin to reduce intra-ocular tension has been recommended in conjunction with a modification of my plan of manipulation. It is universally admitted by oculists that this remedy has in a number of instances lighted up grave attacks of acute iritis, exceedingly troublesome to manage, and in not a few cases followed by disaster to vision. The employment of such a dangerous remedy is, therefore, likely to prove more uncontrollable than the cataract it is proposed to relieve. The aromatic oils are being recommended as solvents for cataract. I thoroughly tested a number of them in my early investigations. The ones employed were oils of anise, caraway, chamomile, cinnamon, clove, coriander, cubeb, fennel, flagroot, horseradish, and mustard, but I failed to get even the slightest benefit from their use, and abandoned them.

It is necessary that some reference be made to the spontaneous absorption of mature cataract, reports of the occurrence of which appear from time to time in the papers, medical and lay. The term absorption in this connection is a misnomer, for it implies that the cataract is absorbed, the lens again becoming transparent. As a matter of fact, what happens is this: The opaque cortical matter softens, becomes liquid (Morgagnian cataract), and is absorbed; the nucleus either falls to the bottom of the capsule, or, as recorded by competent observers, in a few cases it is also absorbed. The histories of fifty cases have been collected by Nathanson and reported in *Zehender's Monatsblatt der Angenheilkunde*, 1898. I have under my care a case similar to one there referred to. The patient has been under observation for the past three years, has a myopia in each eye of about sixteen diopters, and two years ago, after exposure of the eyes to the glare of sunlight on a limestone road, a sudden dimness of sight was experienced in the right eye. On return to town, between two and three months later, examination of the eye revealed a large detachment of the retina below. Rest in the recumbent position, eserin, followed later by pilocarpin, instillations, hypodermatic injections of pilocarpin muriate to the production of marked diaphoresis for four weeks resulted in the reattachment of the retina. Six months later a cataract began to develop, and not knowing what effect manipulation might have on a reattached retina I decided not to employ my treatment for immature cataract, but to leave the case to Nature. About ten months later Nature made a complete report, showing a ripe cataract, but light projection was apparently lost over a space corresponding in size to about one-half the area of the previous detachment. Examination in October, 1898, left it questionable if any blind space existed, and the color of the opaque lens was less conspicuously white. In January, 1899, light projection in the four quadrants was good, and when the light from a concave mirror was passed in the line of a circle there was instantaneous recognition when the line was broken. There was also distinct ability to distinguish the presence or absence of large objects in places foreign to their usual position.

It is pertinent to the subject of this paper that a comparison be instituted between the result obtained in the so-called spontaneous absorption of mature cataract and that following absorption of immature cataract. In the first named there is a complete absorption of cortical matter and often the nucleus as well and when this occurs we have all the benefit of an extraction with none of its dangers; but the patient requires the usual high-power convex glass for general use, and a still more convex glass for reading. When, however, the nucleus is not absorbed, and descends in the capsule so that it partly occludes the pupil, it must be removed by extraction, but the operation is then more dangerous and often less satisfactory. In the absorption of immature cataract by my method the opaque fibers are changed to transparent ones, the entire lens (probably) remains; the large majority of these patients use the same

glasses after treatment that were used before opacification of the lens occurred, and they invariably declare that the eyes can be used without exertion, they being unaware of any effort.

In passing I would say that in making my examination of vision assiduous care is exercised to eliminate any and every element which might militate against repeated examinations being conducted on identical lines. The atmospheric condition is noted as being bright, sunshiny, dark, overcast, rainy, snowy, foggy, etc., and the same set of test cards has been used in all cases. These cards are kept in a closet with a glass front, the glass being kept covered with a heavy silk curtain. When not in use the glass door is closed and the cards are in darkness; this preserves the clearness of paper and letters and I am thus testing sight with the identical cards I have employed for the past nine years.

This subject may be thus summarized:

1. Immature cataract is due to local conditions dependent on general systemic causes.

2. Senility is rarely a direct, but may be a predisposing, cause.

3. Fluids containing perverted aliment resulting from defective metabolism supplied to the lens through its nutritive stream may be considered an exciting cause.

4. Deficient blood-supply, thus reducing the quantity furnished, may be considered a contributing cause.

The following conclusions may be drawn:

1. Immature cataract may be regarded as a largely preventable disease.

2. It may, by properly directed treatment, local and constitutional, be prevented, arrested, retarded or cured.

3. The circulation of the blood must be regulated.

4. The faulty digestion must be rectified.

5. Constant supervision of the eye must be maintained by a competent ophthalmologist, that eye strain be relieved, and all changes in refraction be promptly remedied.

6. Treatment by conjoined manipulation and instillation should be instituted at the earliest possible moment.

7. Finally, if local and constitutional treatment should not provoke a favorable issue they will establish a more nearly normal state of the ocular tissues, and if an operation be found necessary, this improved condition of the ocular structures will ensure a larger degree of success.

The accompanying plates (see frontispiece) are submitted as an exhibit of the ophthalmoscopic appearances present in these cases at the dates noted. In making the original drawings, from which the plates have been copied, rigid precautions were exercised to have the diagrams made under absolutely similar conditions in order that an accurate comparison might be instituted. Several of these diagrams were published in illustrations of cases reported in my second paper, and I cannot, nor do I think that any unbiased observer can agree with the criticism then made that these represent a single or unusual form of cataract. Both the striated and diffuse opacities are indicated, and as these are the varieties which generally are presented the pictures certainly do *not* represent an "anomalous form of cataract."

This selection of cases was made solely to present a pictoric representation of lenticular opacities before and after treatment, and the ones chosen were those in which there was the longest interval between the first and the latest examination, the object being to demonstrate that progress of the cataract was arrested and the absorption of the opacity was permanent.

THE PRESENT STATUS OF OUR KNOWLEDGE OF CHLOROSIS.[1]

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In responding to the invitation of the President to prepare a paper on chlorosis, which would serve as an introduction to the discussion upon this subject, it has seemed to me to be more profitable to confine myself as far as possible to the consideration of those phases of the subject of which our knowledge has been modified or definitely confirmed by the ever increasing hematological investigations of the past decade. These investigations as I shall endeavor to show have in some instances disturbed our previously accepted divisions of anemia.

The so-called anemias are characterized either by a reduction in the number of red cells circulating in the blood, an oligocythemia, or by a reduction in the amount of the hemoglobin, designated as oligochromemia. Further, both red cells and hemoglobin may show reductions in varying degree, so that the hemoglobin value of the individual remaining corpuscles, the *valeur globulaire*, may be increased or diminished. These variations characterize certain divisions of anemia. Thus the percentage of hemoglobin in chlorosis is much lower than the percentage of red cells, while in pernicious anemia the percentage of hemoglobin is higher than the percentage of red corpuscles.

However, the plan was long ago adopted of dividing the anemias clinically according to the ab-

[1] Read at a stated meeting of the New York Academy of Medicine, May 4, 1899. For discussion see page 507.

sence or presence of a known and sufficient cause, in other words into primary and secondary anemias. In the present state of our knowledge we still adhere to this method, although the lines are at times drawn with great difficulty, and we must accept our somewhat arbitrary classification with a full understanding of its limitations, which are further enhanced by the possibility that we may at any time be called upon to divide or re-allot in accordance with our future acquisition of new light upon the subject.

Disturbances of the blood-forming function or organs enters to some degree into the causation of all anemias, as does also perhaps hemolysis or blood destruction, and the real point in classification is whether these dominate the clinical picture, while the disturbances of other organs play a dependant and minor part, in which case we call the anemia primary essential or idiopathic, or whether the preceding concurrent organic diseases, or deleterious influences are so prominent as to force upon our acceptance the belief that they stand in a direct causal relation to the anemia, in which case we must entitle it a secondary or symptomatic anemia.

The term "splenic anemia" although a convenient one to designate a class of cases in which the enlargement of the spleen is a notable symptom, has at present no real status, for it is a mixed class, some of the cases being symptomatic anemia and others being instances of Hodgkin's disease.

Until within a few years writers and teachers spoke of a simple anemia or a simple primary anemia and some still retain this division, but the hematologists have swept this away, for as Stengel distinctly states "there are no characteristics by which this may be satisfactorily recognized."

Those affections which are characterized by notable or distinctive alterations in the numbers and varieties of the white cells being at present grouped by themselves our classification of the anemias is therefore reduced to:

I. Primary; *a*, pernicious anemia; *b*, chlorosis.

II. Secondary or symptomatic anemia.

This latter large residual class of anemias becomes necessarily one of great interest, for, as we have just seen, it embraces all the cases of anemia which remain after the exclusion of pernicious anemia and chlorosis, and fortunately by its very name it forces upon us the obligation of discovering the cause of the anemia when we undertake the treatment. No sooner have we decided that an anemia belongs to the class of secondary or symptomatic anemia than the question confronts us: Secondary to or symptomatic of what? This brings us directly to a consideration of the possible causes of such anemias and this must necessarily be brief. They may be influences which act from without, in short, matters of environment, or they may be from within, conditions of actual disease. Hence hygiene, employment, dirt, hemorrhage, parasites, infectious diseases, organic disease and neoplasms, chronic diseases of nutrition, and toxic influences may stand in a causal relation. This list is not a long one and is often passed over lightly but a little serious consideration shows us that it really covers very nearly the entire field of internal medicine. The view that secondary symptomatic anemias show an approximately equal reduction in both red cells and hemoglobin is no longer tenable in the light of the results of extended series of observations. It has been shown that the reduction of hemoglobin is greater than the reduction of red cells. While this reduction is not very marked it is at times as great as that found in typical cases of chlorosis. Stengel's average in 100 cases of secondary anemia was red cells 88.6 per cent., hemoglobin 76.4 per cent., but in individual cases the reduction was often much greater. Rickets, carcinoma, tuberculosis, and syphilis show this most frequently and to such an anemia the term chloroanemia finds its most apt application.

Pallor, which may have a slight icteric hue, gastrointestinal disorders, anorexia, constipation, anemic murmurs, cardiac dilatation, palpitation, dyspnea, depression, weakness, languor, neuralgia, headaches, and in females menstrual disturbances may all occur in the secondary anemia as they do in the chlorotic woman. The differential diagnosis then, although easy in typical cases, is not always a simple matter. Examinations of the blood from which so much was expected do not solve the problem *at times* even when conducted by experts, as, in the absence of leucocytosis, characteristic differences are not uniformly present in these conditions. The clinical history of the patients and a painstaking investigation of their occupation, habits, and environment, together with the results of physical examination must be taken into consideration before we may make our diagnosis.

To return now to chlorosis with which this paper properly deals we find that its definition has been modified considerably in the direction of greater brevity. It is one of the primary anemias occurring almost exclusively in young women from puberty to the twenty-fourth year, characterized by a marked diminution in the amount of hemoglobin and attended by the usual clinical symptoms of anemia. The greenish-yellow color of the skin which is present in typical cases is by no means constant and many patients who in other respects correspond to the accepted clinical picture and show the customary alterations in the blood do not present this appearance.

Another fallacy which has been handed down to us is that blondes are more liable to become chlorotic than brunettes, but this opinion is no longer maintained. Moreover, as has been pointed out by Fagge, the chlorotic tint is best seen in those girls who are naturally of a dark complexion.

Since chlorosis occurs chiefly in women during the earlier years of menstrual activity, it was but natural that an effort should have been made to find out its cause in some derangement of the reproductive organs. Consequently the amenorrhea, which while probably symptomatic of the anemia, often appears before the other symptoms are developed to such a degree as to attract notice, was seized upon and paraded as a cause, but instances of menorrhagia also have been recorded by Trousseau and others. Further color was given to the above theory by Rokitansky in 1846 when he drew attention to the existence in certain cases which came to autopsy of a lack of development in the genital system. Niemeyer's statement is frequently quoted, that he had never met with a case in which the menses appeared early while the breasts were still undeveloped without the occurrence later of an obstinate chlorosis. Late establishment of the menstrual flow has also been linked with the disease. More commonly the symptoms do not declare themselves until two or three years after this epoch and Hayens found the average age of the onset of chlorosis in 52 cases to be seventeen and a half years.

Despite this close association of chlorosis with the menstrual life of the patients there seems to be on the whole no reason for assuming that there is between them an exclusive relation of cause and effect.

In 1856 Virchow stated authoritively that he had found in certain cases of chlorosis a congenital hypoplasia or retarded development in the circulatory system with narrowing of the lumen of the aorta and unusual thinning of its walls. Virchow's renown as a pathologist at once gave to this finding an established position as a potent etiological factor and no chapter on chlorosis has since that time been deemed complete without its mention. Fagge, however, than whom probably this century has produced no keener observer or more logical medical critic, points out that among Virchow's cases are several in which there was obstructive disease of the aortic or mitral valves, which in themselves may cause faulty development and narrowing of the aorta, and that such disease of the valves is not congenital but the result of endocarditis in early childhood. Moreover, not only have autopsies on many chlorotic patients shown normal aortas, but perhaps the strongest argument against the presence of such vascular hypoplasia, in any considerable proportion of cases, is found in the prompt and complete recovery of most chlorotics under suitable treatment.

Another epoch in the supposed etiology of this affection dates from the publication of the views of Sir Andrew Clark, which, by the way, did not originate with him, that the constipation, which is so commonly associated, results in the absorption of toxic products. In this connection, the term copremia is most commonly employed. Certainly, constipation is a common symptom, and it is a matter of general observation that the relief of this condition favors the action of other measures for the cure of the disease, but any theory that hemolysis, pure and simple, produces the chlorotic condition of the blood seems to have been definitely disposed of by Van Noorden and others, who have shown that urobilin, which is invariably increased in the urine when there is excessive destruction of red cells in the organism, is present in the urine of chlorotics in decreased or at best only in normal quantities. This is an important fact.

Forchheimer takes the view that hemoglobin is chiefly manufactured in the intestine, and that intestinal putrefaction interferes with its production. Of this he considers the reduction of urobilin in the urine an important sign.

The nervous system and especially the sympathetic system offers us an extremely interesting field for speculation, the more so because certain recognized predisposing causes, such as fright, shock, grief, disappointed affection, homesickness, etc., may act through this little understood channel upon the innervation of the blood-forming organs and influence their output.

The blood-forming organs themselves when interrogated by the pathologist throw no light upon the subject, as they present no characteristic changes. The spleen is frequently enlarged. Anemia, small hemorrhages and fatty degeneration of the important abdominal organs may be present as in other forms of advanced anemia.

Much interest has attached of late years to certain changes in the gastro-intestinal tract. Dilatation of the stomach, gastroptosis, fatty degeneration of the gastric tubules and gastric ulcer, have all been found with considerable frequency, but these are all open to explanation of being secondary phenomena, while if they be primary lesions the question is debatable whether the resultant blood condition should not be classed as a secondary anemia.

The suggestion that chlorosis is an infectious disease rests chiefly upon the occurrence in certain cases of venous thrombosis and the occasional presence of fever and of enlargement of the spleen. Micro-organisms have been found in the blood of patients

with these symptoms, but the proposition will not hold good of all chlorotics.

Thus far no mention has been made of change of climate and environment as seen in the immigrant class, nor of the influence of overwork through long hours in close, badly ventilated, and often poorly lighted workshops or apartments, with the hurried consumption of coarsely prepared and unsuitable food. These are of undoubted importance in the cases which occur in the ranks of the employed. But because the patient comes from the well-to-do classes it by no means excludes the possibility of an improperly adapted diet hygiene with overstudy, late hours, dancing, and excessive fatigue. Therefore, when all has been said on the subject of etiology we find no single constant cause operative in all cases but various factors which serve to disturb the balance of the hemogenetic organs, which although they have previously managed to keep up with the demands made upon them now give way under a strain which is put upon them at puberty when the body is undergoing a rapid development, which can only be accomplished properly under favorable conditions.

The symptomatology of chlorosis has much in common with the other anemias, yet the careful statistical investigation of individual symptoms has developed much that is of interest. When some emotion or other etiological factor acts through the nervous system the onset may be sudden. The same is true when there has been some decided alteration in the patient's habits of living or her environment, as in change of rêsidence to a foreign country, but otherwise the onset is usually gradual and may not excite remark among the friends until some single prominent symptom, like amenorrhea, fainting, dyspnea, or palpitation forces itself on the notice of the patient or her family. With the younger patients, as in the anemias of childhood, the first indication may be a disinclination to engage in their usual sports, exercise, or more active duties. Headache is more common in the early stage. The pallor which, as we have seen, does not always exhibit the characteristic tint so commonly described is more certainly determined by an examination of the mucous membranes of the mouth and conjunctiva since certain cases present a vasomotor dilatation of the face which may be misleading. These latter cases have been designated chlorosis rubia or florida. It may happen that the embarrassment incident to the medical interview may temporarily put a fair degree of color into the face of the patient.

Contrary to the usual findings in cases of secondary anemia the subcutaneous fat is often rather increased than diminished, although this is not true of all cases. Explanations of this phenomena are varied, such as that the persistence of the fat is due to feeble oxidation owing to the reduced amount of oxygen-carrying hemoglobin in the circulation, or that it results from the avoidance of exercise while consuming the usual quantity of food, or again because the patient from a feeling of chilliness dresses warmly and thus lessens heat radiation and production with reduced combustion of the body fats.

Edema when it occurs is present about the eyes and ankles but seldom to any marked extent. Pigmentation of the skin about the joints is at times found as in other diseases associated with anemia. Few cases exist without more or less disturbance of digestion. When constipation is a factor the breath is offensive. The appetite is often lacking or perverted and it is customary to state that pickles or sharply spiced foods are more willingly eaten and that there is often a craving for chalk and slate pencils.

Hayem, who first maintained that the dyspepsia of chlorosis is due to a deficiency of hydrochloric acid, later found, in a series of 70 cases, one-half in which there is hyperpepsia and some cases in which there was an excess of hydrochloric acid; while Oswald found hyperacidity in 95 per cent. of his cases and concluded that neither deficiency of hydrochloric acid nor motor deficiency in the stomach played any part in the dyspeptic disorders of chlorosis. He consequently decried as injurious the indiscriminate giving of hydrochloric acid in this disease. More attention should doubtless be given to the position of the stomach and the physical condition of its walls for while Hayem records the existence of dilatation in 27 out of 37 cases examined more recent writers have considered that some degree of gastroptosis is present in a large proportion of the cases, and that the severer the case the more probable it is that one or both of these conditions exists.

Nausea and vomiting which may take the form of morning regurgitation of food is not uncommon. Epigastric distress and pains which are neither constant in degree nor in location are of frequent occurrence. Constipation with the accumulation of hard scybalous masses has already been sufficiently referred to. In the presence of a considerable anemia, which affects as well the nerves and the nerve-centers, it is not surprising that there should be headache depression, occasionally amounting to melancholia, hysteria hyperesthesia, and neuralgia, whose dependence on the anemia is best indicated by their yielding more surely upon the administration of iron than with the use of any other measures. While the course of chlorosis is usually apyretic and the temper-

ature may be even subnormal, some cases undoubtedly show some continuous or irregular elevation. This has been ascribed to fatigue (Hayem), to constipation, and the absorption of toxic products from the bowel (Potain and E. Guam), or to the existence of complications. While some analogy is found in the fever which accompanies pernicious anemia, its presence should always excite suspicion and before it is accepted as symptomatic of the chlorosis other complications and especially tuberculosis should be carefully sought for and excluded.

Of the various disturbances of the circulatory system, palpitation is most commonly complained of by the patients, and this it may be which leads them to seek medical advice. If the anemia is marked even moderate exertion, or any sudden emotion serves to bring it into prominence. Vascular murmurs are of frequent occurrence, and some of the best examples are to be found in this disease. Richardson found the so called venous tumor, or bruit de diable in the vessels of the neck, in fifty per cent. of 180 cases, but Henry thinks this is probably a low figure. This murmur was much more frequent on the right side alone, 33.3 per cent., than on the left, 6.1 per cent., while on both sides it was audible in 11.1 per cent. The cardiac area may be normal, but dilatation may occur with some increase in cardiac dulness. As the anemia increases murmurs develop over the precordium. These are usually first over the pulmonary area, and then may be heard over the mitral, tricuspid or aortic areas. Barr found bruits in 115 out of 205 cases. Of these 56 were heard at the base, 13 at the apex, 24 at both base and apex, and 22 at base, apex, and back. The wider the audibility of the murmur the more liable was the heart to be dilated, and the more readily was it affected by treatment. Eichorst, who seems to have observed a group of more severe cases, as shown by the more general dissemination of the murmurs, reports in 38 chlorotics a murmur in the pulmonary area in 30, tricuspid in 28, mitral in 27, aortic in 13 cases. The murmur was loudest in the pulmonary area in 21 of the patients, mitral, 9, and tricuspid, 8. The various explanations offered for these murmurs would involve a consideration of the whole mooted subject of hemic and functional murmurs, including relative insufficiency of the valves. The pulse is susceptible to considerable variations even in the same individual, but there seems to be a general agreement that it is readily accelerated to a moderate extent, and that, as a rule, the blood pressure is lowered. Dyspnea is a troublesome symptom, and increases with the reduction of hemoglobin.

Dowd in his series of 31 cases examined in Roosevelt Hospital was impressed with the fact that the severity of the symptoms was dependent rather upon the lowered hemoglobin than the paucity of the red corpuscles.

The most notable characteristic of chlorotic blood, as has been stated above, is the extreme reduction of the hemoglobin while the red cells suffer to a relatively much slighter degree. In placing a drop of fresh blood upon the slide for microscopical examination we notice that it is thin and pale, and that it coagulates more rapidly than normal although we are told that the fibrin is not increased. The individual red cells are noticeably colorless, especially in their centers, and there is a uniform decrease in size. Only when the case is a severe one do very small and very large cells (microcytes and megalocytes) appear. The blood-plaques are largely increased in number, and Hayem, who considers them the early form of the colored corpuscles, thinks that in this disease their development into complete red cells is retarded. Certain writers have maintained that there is a condition of hydremia and that the actual volume of the blood is increased.

The very valuable series of examinations made and tabulated by Thayer of 63 cases, and by Cabot of 77 cases, give us an excellent opportunity of studying the relation of the red cells and the hemoglobin. Their averages for their series correspond strikingly. They are respectively: Red cells 4,096,544 and 4,500,000 per c.mm. Hemoglobin 42.3 per cent. and 41.2 per cent., or about half the normal amount of hemoglobin for each cell present. These averages would at first sight seem to indicate that the number of red cells is not greatly reduced, and indeed that is true of a considerable number of the cases, but in the proportionately smaller number of severe cases the count of the red cells may be greatly reduced. Cases are recorded in which the counts were as low as 1,953,000 (Thayer), 1,932,000 (Cabot), 1,500,000 (Stengel), with hemoglobin respectively, 17 per cent., 19 per cent., and 20 per cent. Yet hemoglobin of only 20–35 per cent. may be found with the red cells from 3,000,000 to 4,000,000 per c.mm.

It is with the development of the more marked oligocythemia that we begin to find other changes common to all severe anemias, namely, variations in size, poikilocytosis, degenerative changes and the appearance of nucleated red corpuscles. These changes are seldom as marked as in the severe secondary anemias of the same grade. The nucleated red cells are almost invariably normoblasts and the megaloblasts so common in pernicious anemia are seldom found. Reinert's 247 tabulated cases in which the red cells were 4,000,000 and over in but 99 cases, and fell below 4,000,000 in 148 cases,

are very interesting as showing that the cases of chlorosis abroad advance to a more extreme degree than with us, probably because the patients do not seek treatment as early.

It may be definitely stated that there is no leucocytosis in uncomplicated cases. Cabot's series averaged 7485 white cells per c.mm. and Thayer's 8467 per c.mm. Although there is no increase in the total number of the white corpuscles there is at times a relative increase in certain forms, that is of the mononuclear forms, a so-called lymphocytosis. This led Neusser to advance the view that chlorosis could be divided into lymphatic and splenomyelogenous types. The former was associated, he thought, with enlarged glands and the so called lymphatism, the latter with enlargement of the spleen and pain in the bones. Neusser's views, however, no not seem to have been substantiated by others. The finding of an occasional stray myelocyte has no significance.

The specific gravity of the blood which sinks in direct proportion to the loss of hemoglobin is consequently much lowered. Cabot states that 1030 is not uncommon and Stengel quotes 1020 in one case. Biernaki should be recorded as standing alone in his opposition to the generally accepted view that the iron in the blood is reduced in quantity. In the fluid portion of the blood the water is increased and the amount of albumen is decreased. Opinion is divided with respect to an increased alkalinity of the plasma. In the regeneration of the blood under the use of iron the red cells first show increase in numbers, and later improve in size, weight, and color.

The chief difficulty in the diagnosis of chlorosis, by examination of the blood, lies, as has been said, in differentiating it from secondary anemia, from which at times it may be indistinguishable if the latter presents no leucocytosis.

The chief differences between the two as stated by Cabot are as follows: in secondary anemia the red cells may be reduced lower in numbers for a case of equal severity. Their size and shape is more varied while not exceeding nor usually equaling the normal size. Necrobiotic or degenerative changes with polychromatophilia occur earlier and are more marked. Nucleated red cells are more common, chiefly normoblasts. The hemoglobin is relatively low but does not show the same disproportion which characterizes chlorosis. There is often leucocytosis with the polynuclear cells increased in number and the lymphocytes diminished. These are the general rules, yet in young women a careful study of the clinical features of the case and of the physical signs must often be depended upon to determine the question.

An interesting pallor is to-day less fashionable and less prevalent than it was some decades ago. The impetus which has been given of late years to outdoor sports is leading to a healthier life. The available hematonics have been considerably increased in number. The patent pill for pallid persons lies exposed on every drug-store counter and fills the daily newspaper with its flaring advertisement. Moreover, the public itself is better informed in such matters, and the terms thin blood, poor blood, and even anemia, with its every variety of popular pronunciation, are more or less correctly applied by the laity. Consequently assistance of some kind is sought for earlier and this assistance is more efficient than formerly. We may at least assert confidently that extreme cases of chlorosis are now met with less frequently among the more intelligent classes.

Although the dictum of Immerman is a true one, as quoted by Henry, that "scarcely any point in therapeutics is so fully established as the remarkable efficiency of iron in removing all the symptoms of chlorosis," it is equally true that while the haphazard use of a few time-honored preparations will produce favorable results in a considerable number of cases, many failures will inevitably follow such a plan. The treatment of chlorosis and anemia is not simply *iron*, but it is the administration of a suitable preparation of iron, together with a proper regulation of the patient's mode of life and the intelligent choice of measures for the relief of disturbed functions. It is, therefore, not unusual to meet with patients who have been under routine treatment for considerable periods without notable improvement, who make rapid strides as soon as they come into other hands and are put on treatment which is judiciously outlined in accordance with the individual needs and indications. When fatigue has been a contributory agent, rest in bed may be imperative, for this reason some patients who do not improve while continuing their usual occupations improve steadily after they enter a hospital. Removal to a different environment, stimulation of the skin by bathing, and the establishment of a better circulation by friction and massage may be of great assistance. Some degree of dyspepsia exists in the majority of chlorotics and often this must be relieved before iron will be efficacious or perhaps even be tolerated. This has been maintained by Hayem, and on this basis Pick treated sixteen patients by lavage with great success. He was convinced that it produced better results in the improvement of digestion than were obtained by drugs. P. Le Gendre favors the use of simple bitters or strychnin or trucia before meals; the administration of hydrochloric acid, if there be proven to be deficiency of secretion, or full doses of alkalies if

hyperacidity exists; while abnormal fermentation is to be checked by bismuth salicylate, naphthol or chloroform water 3 to 4 hours after meals in cases of dilatation.

The diet of the chlorotic should be simple and adapted to the digestive powers of the individual. Milk may usually be given freely. Van Noorden would limit the fats and carbohydrates for plump patients, and give them more freely to lean ones. Meat rare or raw may be given to both, and in itself contains iron, and with egg furnishes albumens, which are said to be deficient. A considerable controversy which is not yet ended was initiated by Bunge when he advanced the theory that the inorganic preparations of iron subserve their purpose indirectly by combining in the intestines with the sulphides which are there formed as the result of abnormal decomposition, and thus allowing the normal absorption of the organic iron compounds present as nucleo-albumens in the food to proceed without interference. Even the most active opponents of this theory are forced to admit the efficacy of inorganic iron compounds, and the question whether inorganic iron is directly absorbed into the blood, or acts as a stimulant to the hematopoietic organs, or is only of value in the way that Bunge has suggested, is still an open question. Authorities seem to differ as to the amount of iron which it is necessary to administer, and the advocates of smaller doses base their claims on the very small amount of iron contained even in the normal, healthy human body, and remind us that nearly all the iron given by the mouth is recoverable in the stools. It is possible that when the digestive tract has been well prepared for absorption, the small doses are proportionately more fully taken up. However, it is common experience that large doses are often efficacious when small ones have failed. Of this phenomenon Bunge's theory furnishes us our only explanation. While the weight of opinion seems to be in favor of the use of inorganic preparations of iron in massive doses, the usefulness of organic preparations in certain cases cannot be denied. The favorite forms of giving iron are as Blaud's mass, sulphate of iron in Startin's mixture (Clark's), lactate of iron (Quincke), Liq. ferri sesquichlorid G.P. (Israel), tinct. ferri chlorid (Nothnagel), proto oxylate of iron (Hayem), to which may be added the long list of officinal combinations of iron with the vegetable acids, and the non-officinal albuminates, peptonates, and preparations of hemoglobin and the nucleo-albumens. In general, it is safe to say that the best guide to the choice of a preparation of iron is the condition of the stomach. Townsend, in several groups of cases treated by different methods, secured the most rapid increase of hemoglobin when beta naphthol, grains 2 were given with 5 of Blaud's mass, thrice daily, thus securing intestinal antisepsis. Forchheimer selected solol and hydronaphthol as the most efficient antiseptics, giving them in 5-grain doses with iron. The hypodermatic administration of iron which has been used considerably upon the Continent has met with little favor here on account of the pain and irritation caused by most preparations. Da Costa, however, claims to have eliminated this by the use of 15-minim doses of a twenty-per-cent. solution of the unofficinal ferri et mangani citras.

Relief of the associated constipation of chlorosis, and of that which is induced by many of the iron preparations is imperative for the attainment of prompt results. Cascara has of late been much used for this purpose and is often better tolerated by the stomach than the salines and natural purgative waters which have long held their position. Sir Andrew Clark combined the laxatives with the irons in Startin's mixture above mentioned. He also employed pills of aloes, myrrh, and iron. Arsenic has little effect alone but is often very valuable in combination with iron. The addition of strychnin is frequently of service for its general tonic effect upon the stomach and upon the circulatory and nervous systems. The subjective sense of improvement is not infrequently more prompt under its use. In a similar manner digitalis by slowing and steadying the cardiac action will add to the patient's feeling of well being. Manganese seems to have failed to fulfil the claims which were made for it. Oxygen, although useful, has no advantages commensurate with its cost. There is a general consensus of opinion that treatment should not be abandoned when the subjective symptoms are relieved, but to avoid relapse should be persisted in until the hemoglobin reaches or approximates the normal.

THE HISTOLOGY OF DUPUYTREN'S CONTRACTION OF THE PALMAR FASCIA: REPORT OF MICROSCOPIC EXAMINATION IN TWO ADDITIONAL CASES.

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In "A Clinical Study of Dupuytren's Contraction of the Palmar and Digital Fascia," published in the *American Journal of the Medical Sciences* for March, 1899, page 285, I reported a microscopic examination of the lesion in one case and cited the microscopic studies of the disease found recorded by Richer, Chevrot, Anderson, and Langhans. Since that article was written opportunity has been pre-

sented for making microscopic examinations in two more cases of Dupuytren's contraction, which are here reported.

Case I.—W. H. D., born in New York in 1826, was a sailor and engaged in heavy labor from 1865 to 1889, and after that time was a watchman or lived, without working, as a pensioner. He was subject to occasional attacks of asthma and after 1894 had rheumatism in the left leg. In 1882 the little finger of the right hand began to contract and the flexion continuously increased through the remainder of his life, in 1897 it being stated to be worse than it had been a year previous. The left little finger also contracted progressively from 1892.

When examined, April 29, 1897, the following conditions were found: In the right hand a prominent elevated band extended across the palm from near the wrist to the little finger, with marked indrawing of the skin opposite the metacarpophalangeal joint; the band continued along the radial side of the little finger to the base of the distal phalanx, causing well-marked contraction of the finger, the proximal phalanx being flexed on the metacarpus to an angle of about 120 degrees, and the distal phalanx flexed to about 135 degrees. Forcible extension of the finger caused marked pain along the contracted band. There was also induration and puckering of the skin opposite the metacarpophalangeal joint of the right middle finger, but no contraction of the finger. In the left hand there were slight contracted bands with induration and indrawing of the skin along the lines leading to the little finger and thumb, which were slightly contracted.

The patient died of pulmonary edema December 25, 1898, and microscopical examination was made of the tissues in the palm including the contracted band running to the little finger of the right hand. The band causing the contraction was plainly visible to the naked eye as a well-marked dense, fibrous band belonging to the palmar fascia, situated in the subcutaneous tissue at a greater or less distance from the corium. In cross section the band was of oval shape, measuring about five millimeters in the long axis and three in the short axis; the long axis lay parallel or slightly oblique to the surface of the skin. The cut section of the band was of a dense, glistening gristly appearance and feeling.

Microscopic Examination.—Toward the wrist the band was separated from the corium by an interval occupied by areolar or loose connective tissue, and some adipose tissue, coils of sweat glands, and blood-vessels. Opposite the metacarpophalangeal joint, where the skin was depressed, the contracted band lay closely adjacent to the lower surface of the corium with nothing intervening—not even sweat-glands, which were suppressed or pushed aside in this situation. Although the cord adjoined the corium the tissues of the two were distinct and did not merge into each other. The band consisted of a dense longitudinal aggregation of firm fasciculi of white fibrous tissue, similar in general to the tissues of normal palmar fascia; it was substantially a hypertrophy or increased development of a circumscribed longitudinal tract of the palmar fascia.

At a point examined toward the wrist the band exhibited a markedly low relative proportion of connective tissue cells among the fibrous elements. In some of the fasciculi the cells were very scarce and scattered, the fibers being compacted together in exceedingly dense and solid non-cellular masses. In this situation, also, the band was notably non-vascular, the slender blood-vessels present among the fasciculi of normal palmar fascia being here almost entirely absent. At another point examined (at the depression of skin over the metacarpophalangeal joint) the connective-tissue calls were very abundant, fully as numerous as in normal fascia. The blood vessels in this portion of the band also were quite scanty, though somewhat more abundant than in the other situation examined. They were capillaries or very small vessels with only a scanty adventitia, and were not surrounded and accompanied by any abundance or proliferation of connective-tissue cells.

The stratum corneum of the skin was somewhat thickened, apparently from non-use of the hand and lack of attrition of the surface; the remaining portions of the skin, in the sections examined, were not materially if at all thickened. Inversions of the skin, so that a tip of epidermis and corium (drawn by the traction of shortened fibrous bands) projected entirely underneath the surface skin, were present and conspicuous. The sweat-glands were unaltered, except in being absent at points where the band was closely apposed to the corium. Otherwise no abnormality was observed in the tissues surrounding the affected fascia. A few Pacinian bodies were seen alongside the band.

Case II.—J. D. P., born in Tennessee in 1819, was a farmer until 1855, a soldier from 1855 to 1882, and after the latter date an inmate of a Soldier's Home. From 1871 he was subject to occasional attacks of chronic rheumatism. About 1891 or 1892, while occupied in raking leaves, a contraction of the fascia gradually developed in the right palm, unattended by pain.

When examined March 10, 1896, in the right palm there was a slightly elevated band of contracted fascia running from the palm to the middle phalanx of the little finger, flexing this phalanx to an angle of about 135 degrees. There was also a slight band to the ring finger; the left palm was scarcely affected. The patient was markedly senile. No further change was noted in the condition of the Dupuytren's contraction. The subject died May 18, 1899, from circulatory disturbances resulting from hypertrophy of the heart, and the skin and underlying tissues including the contracted fascia leading to the right little finger were subjected to microscopical examination.

To the naked eye the band causing the contraction appeared as a dense fibrous band, with a glistening grisly appearance and feel, situated in the subcutaneous tissues immediately beneath the corium.

Microscopic Examination.—Cross sections of the affected tissues were made at two points, at the transverse line in the palm opposite the metacarpopha-

langeal joint, and at the line of junction of the little finger with the palm. At both these points the band appeared as a dense longitudinal rounded or oval aggregation of white fibrous tissue, not exhibiting any marked division into fasciculi; its tissue was not essentially different from that of normal fascia, being a hypertrophic development of the latter. The band was situated in the layer of subcutaneous fascia, and was in immediate juxtaposition with the lower surface of the corium; the band and corium, though in contact, were distinct structures and not continuous with each other. Among the closely aggregated fibrous elements of the band nuclei of connective-tissue cells were abundant and prominent, elongated in form (rounded or polygonal in cross section). The band contained few vascular channels, a few scattered capillaries being present without any accumulation of connective tissue cells surrounding them.

At the base of the little finger the band was elliptical in cross section, about three by two millimeters in size, the longer axis being transverse. In this situation two Pacinian bodies were observed alongside the band. Over the metacarpophalangeal joint the band for a short distance was composed of two divisions side by side, giving a combined transversely oval cross section 3 15 by 2.5 millimeters in size. One of the divisions of the band at this point was connected with a large fascial band extending downward. Aside from some thickening of the stratum corneum (probably due to non-use of the hand) the skin was not materially thickened or altered, and no other abnormalities were observed in the tissues surrounding the hypertrophied band.

A comparison of the histological conditions in these cases with those found in the case of H. D. J. (published in the journal above cited) exhibits some noteworthy points. In the case of H. D. J., the contraction was of recent development, about eighteen-months' standing; the contracted band contained a great abundance of connective-tissue cells, and numerous small blood vessels surrounded and accompanied by a great profusion of cells passed among the fibrous fasciculi. In the cases here reported the contractions were of long standing, having existed sixteen and eight years respectively, though in Case I., stated to have been continuously progressive. As compared with the case of H. D. J., the contracted bands were less vascular; the vessels present were unaccompanied by any abundance of cells in their adventitia, the connective tissue cells among the fibrous elements were less numerous and at one situation in one of the cases very much diminished.

These observations go toward indicating that in the early or developing period of Dupuytren's contraction the cellular and vascular elements occur in great abundance; while at a later stage, when the lesion is fully developed and stationary the cells and vessels diminish, leaving the abnormal tissue a dense fibrous mass; and that the hypertrophied fibrous bands are developed by the activities of the abundant connective-tissue cells, which are proliferated in especial profusion along the course of the small blood-vessels. The lesion is essentially a hypertrophy, the new tissue being similar to the pre-existing normal fascia. Any etiological explanation of Dupuytren's contraction would have to take into account the active proliferation and the fibroplastic action of the connective tissue cells and their relation to the vascular elements. The presence of Pacinian bodies in all the three cases microscopically examined by me is perhaps worthy of mention.

CLINICAL MEMORANDUM.

TREATMENT OF SUPPURATION OF THE MIDDLE EAR WITH ACETANILID.[1]

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THE following cases have been selected as fairly representing the results of the use of acetanilid in the treatment of suppuration of the middle ear in a series of seventy-five patients treated during the past three years. Fewer acute cases (3) are mentioned because of the greater tendency of the patients toward recovery.

CASE I.—A. F. F., female, aged fifteen years, a student. Discharge from right ear of three-weeks' duration, occurring one week after attack of grip. The hearing was entirely lost in this ear. The discharge was profuse, the pulsating vessels of the tympanum forcing it into the auditory canal at each heart-beat. The edge of the perforation in the membrana tympani was covered by granulations. These were removed with Hartmann's forceps, and their bases destroyed by applications of nitric acid. Each day for twelve days the ear was cleansed with hydrogen peroxid and carefully dried with absorbent cotton twisted on a probe, after which a small amount of finely powdered acetanilid was insufflated. On the thirteenth day the discharge ceased; on the following day the perforation was closed and hearing improved 10 per cent.; and after inflation of the middle ear twice a week for two more weeks the hearing was restored to normal.

CASE II.—A. S. G., female, aged fifty years. Discharge from left ear for two days. Cleansed with hydrogen peroxid on cotton, dried, and insufflation of acetanilid daily for five days. The discharge stopped on the sixth day and the membrane was healed on the ninth. Hearing of the affected ear improved 15 per cent.

CASE III.—A. V. B., aged eleven months. Slight purulent discharge from left ear for six weeks. Cleansed the ear and insufflated acetanilid daily for three days. The discharge ceased on the fourth day, and the perforation closed immediately. Hearing not recorded on account of patient being an infant.

Of the chronic type I report seven cases.

CASE I.—C. L., female, aged three years. Discharge from both ears for two years. Patient tuberculous and suffering from acute meningitis when seen by me in consultation with family physician. Cleansed the ears with

[1] Read before the American Laryngological, Rhinological and Otological Society, at Cincinnati, Ohio, June 3, 1899, and before the Maine Medical Association at Bangor, Maine, June 7, 1899.

dry absorbent cotton and applied acetanilid daily for five days. The discharge, which was very free, stopped on the sixth day; recurred on the seventh in the right ear only; ceased on the ninth day and had not returned in either ear at the last report, three months later. Hearing improved, per cent. not noted.

Case II.—E. M. W., male, aged twenty-one years. Occupation, clerk. Suppurative discharge from left ear of 18-years' standing. The membrane was absent save a very narrow margin above, and the tympanum was covered with granulations. The discharge was very foul. Cleansed the ear daily with hydrogen peroxid and made occasional applications of a one- or two-per-cent. solution of nitrate of silver and finally of lunar caustic until the granulations were destroyed. These applications were always followed by a complete filling of the tympanum with acetanilid. This treatment was continued every day for three months. The discharge decreased and became less foul-smelling but did not entirely cease. I have just learned, two years from the date of beginning treatment, that my patient is dying from phthisis. No improvement in hearing noted.

Case III.—F. B. M., female, aged thirty-two years. Occupation, housewife. History of discharge from right ear at intervals of a few years for past sixteen years. When first seen by me one year ago the right meatus was two-thirds full of foul, pasty pus and the lower half of the membrane was absent. The pus was removed with an ear-scoop, and the canal and tympanum cleansed with hydrogen peroxid. Acetanilid was freely insufflated after the cleansing and drying, twice in four days. The discharge stopped on the fifth day, recurred on the fifteenth, when the above treatment was repeated; ceased on the following day, and had not reappeared one month later, at last report. Hearing improved 25 per cent.

Case IV.—H. C. S., male, aged thirty years. Occupation, druggist. Diabetic history. Frequent discharge from right ear for twenty-five years. Patient consulted me one year ago, when I observed a collection of foul pus below a small perforation in the superior posterior quadrant of the membrana tympani. Cleansed with hydrogen peroxid and insufflated acetanilid every other day for ten days, when the discharge ceased and the membrane healed. No recurrence at this writing. Hearing not improved.

Case V.—S. L. E., female, aged seventeen years. Family and personal history of scrofula. Patient had been confined to the house on account of injuries received from a fall, and her health was much impaired. There had been a fetid discharge from both ears at intervals of a few months for four years. At my first visit, seven months ago, this discharge had returned with increased profuseness. Daily cleansing of the ears with cotton swabs saturated with hydrogen peroxid and the free insufflation of acetanilid was instituted and carried out for two weeks, with marked diminution of the discharge. There was 35 per cent. improvement of hearing in the right ear, and 50 per cent. in the left. Soon afterward I lost sight of the patient, but not before providing her with an outfit with which to personally carry out the treatment.

Case VI.—A. H. S., male, aged eight years. History of suppuration of both ears for six years. When I first saw the patient, six months ago, his mother stated that he had complained of pain in the left ear for ten days and in the right for twenty-four hours. Inspection showed perforation of each drum membrane at the lower end of the manubrium. There was a little serous discharge from the right ear, and more, of a seropurulent nature, from the left; and pulsating of the vessels of the tympanum. I cleansed the ears with dry cotton and applied glycerite of carbolic acid daily for five days. This relieved the pain but the discharge became purulent in both ears. I then began the daily use of hydrogen peroxid and acetanilid. The discharge ceased in the right ear in three and one-half weeks, and in the left in five weeks. Both membranes healed. There was a recurrence in the right ear two months later, but this soon yielded to the same treatment. Hearing improved three per cent. in the right ear.

Case VII.—E. E. W., female, aged nineteen years. Health good. History of a discharge from both ears nine years ago, and recurrence in the left during the previous two weeks. Inspection showed two perforations; the smaller was in the posterior superior quadrant of the membrana tympani, and its edge was covered with one granulation the size of the end of an ivory crochet-needle; the larger was in the lower half of the membrane near the border. I removed the granulation and applied nitric acid to its attachment. I then cleansed the ear and applied acetanilid in the usual manner twice a week for three weeks, when the discharge ceased. No improvement in hearing was noted. The discharge has reappeared within the past three weeks, six months after the last visit, and the ear is now progressing favorably under the same plan of treatment.

Case VIII.—K. C., female, aged twenty-three years. Health fair. Consulted me five months ago. History of discharge from left ear one year, six months, and one month previous. Inspection showed total loss of the membrane and ossicles. After cleansing with hydrogen peroxid I applied a two-per-cent. solution of silver nitrate and insufflated acetanilid daily for two successive days. The discharge ceased on the third day and had not returned one month later, at last report. No improvement in hearing.

Case IX.—A. F. F., female, aged fifteen years. Occupation, student. Patient somewhat anemic and not strong. Left ear had discharged at intervals since an attack of scarlet fever at three years of age, and hearing had been almost lost in that ear. At time of consulting me the discharge was abundant and fetid, with a large perforation in the anterior superior quadrant of the membrane. I cleansed the ear with peroxid of hydrogen, applied glycerite of iodin to the inflamed tympanic membrane and adjacent auditory canal, and then filled the inner fourth of the meatus with acetanilid closely packed. The following day there was a very little moisture at the outer edge of the impacted acetanilid. The second day the ear was dry, and there had been no recurrence of the discharge at the date of the last report

three months later. The acetanilid was gradually wiped out or fell out, and exposed to view through the old perforation a healthy condition of the tympanum of a formerly chronically suppurating middle ear. The hearing improved gradually until it became half of normal.

Case X.—C. H. T., male, aged seventeen years. Occupation, student. Health fine. History of purulent discharge from the left ear six months before which yielded to treatment but recurred two weeks before I saw him and had continued four days. Cleansed for two successive days with hydrogen peroxid, carefully dried and insufflated acetanilid. The discharge ceased on the third day. This case was complicated with a very painful furuncle of the external auditory canal. This was opened and the same treatment applied with happy results. There was no noticeable change in hearing, as was to have been expected in so short a time.

As peroxid of hydrogen was used in nearly all these cases it might be said that the remedial effect was due to it quite as much as to the acetanilid. Observation has not, however, given me the results with the hydrogen peroxid alone that have compared at all favorably with the simple cleansing and drying of the canal and tympanum with absorbent cotton and the subsequent insufflation of acetanilid. Hydrogen peroxid is employed as a temporary cleansing and antiseptic measure to prepare the suppurating surface for the powdered acetanilid, which acts as a drying agent and also as a valuable antiseptic whose power is exerted so long as it remains upon or adjacent to the surface to be medicated.

A few words in explanation of the details of treatment may not be amiss. First I carefully remove all the discharge that can easily be reached by an applicator with dry absorbent cotton twisted on its end. Then I saturate the same with peroxid of hydrogen, apply this to the auditory canal and tympanum, and after waiting a minute for it to act, carefully wipe out all resulting débris and moisture. Sometimes, having the patient tilt the head to the opposite side, I fill the middle ear and canal with the hydrogen preparation, and after a minute let it run out and carefully wipe the parts dry. By use of the hydrogen peroxid inspissated mucus, pus or cerumen are softened and disintegrated, and the expansive force of the gas generated is sufficient to carry much of the discharge into the external meatus, and even out on to the cheek if not caught by a bit of cotton. I have never had a case in which it found an outlet by the Eustachian tube, choosing rather the easier way of escape.

Syringing the ear for any purpose except to remove foreign bodies or inspissated cerumen is, I believe, a pernicious practice. The middle ear is an air-cavity and does not bear fluids at all well. They irritate the delicate mucous lining, and so do harm. Further, some of the liquid invariably stays behind, and by its presence adds one of the elements that is essential to suppuration, namely moisture. This danger is largely if not entirely avoided by use of the lively peroxid of hydrogen.

As to the use of acetanilid, I would advise that only the most finely powdered be used, and that but little be applied to the middle ear and canal in acute suppuration, and in most cases of chronic suppuration. In some obstinate cases of the latter prompt and permanent checking of the discharge and a desirable condition of the mucous lining of the tympanum is brought about by packing the middle ear and inner fourth of the canal with this drug, but this procedure is unsafe unless the patient is seen every day and carefully watched to guard against retained discharge from caking of the powder. An insufflator may be devised from a short piece of glass tubing and a longer piece of rubber tubing of the same size; or the ordinary powder blowers for sale by instrument dealers serve the purpose well, and to my mind are preferable.

MEDICAL PROGRESS.

A Type of Tropical Fever.—Wedekind (*Med. Record*, August 19, 1899) describes a very common type of tropical fever which prevails in the Philippine Islands and is known to the Spaniards as *calentura*. It attacks a new arrival within a short time. There may or may not be a slight sensation of chilliness and then a temperature of 102° or 103° F. This increases until 104° or 105° F. is reached. Headache, general myalgia, anorexia, and marked asthenia, and gastric disturbances are noted. Without treatment the patient will convalesce in a week. Quinin has no specific effect, whether used in small or large doses. Aconite acts almost as a specific. As soon as the patient is admitted to the hospital he should be given divided and frequent doses of calomel until two or three grains have been taken and afterward a saline purge. Four drops of the tincture of aconite are to be given every three hours for three, four, or five days. An opiate may be required to relieve the pain in the muscles. In the majority of instances the temperature will be normal on the following day and will remain so. After three or four days in bed the asthenic condition will be overcome. Calentura is non-malarial and is apparently due to the direct rays of the sun. Female members of European families who remain under cover during the hot portion of the day escape this fever. Many cases of calentura develop on board ship in men who have not been on shore for many months and while the ships are anchored at least a mile from shore. All drinking-water under these circumstances is distilled aboard ship. Furthermore, protection from the sun's rays by the use of a white umbrella, a large, light helmet, and loose white clothes, will in almost every instance save a new-comer from an attack of the fever. Plasmodia were searched for in the blood of many patients but were never found.

The Results of Bottini's Operation for Prostatic Hypertrophy.—Stockmann (*Rev. de Therapeut.*, July 15, 1899), is an advocate of the more frequent use of Bottini's operation in prostatic hypertrophy. This operation is easily performed and often requires only local anesthesia or at most a very short administration of ether. It does not mutilate the patient. It confines him to bed for a short period only, and yields good results. As is well known, it consists in the introduction of a galvanocautery point of a suitable shape to cauterize the prostate through the ure-

thra. One or more grooves according to circumstances are burned in the hypertrophied gland. In order to assure himself that the cautery-point is sufficiently hot, the writer auscultates the symphysis and is able to learn from the character of the hissing sound produced whether the cauterization is satisfactory. After the cauterization has been made, he uses an irrigation of nitrate of silver, 1 to 1000 The bladder should be emptied before the cautery is applied. Out of seven patients treated by him, 1 was cured, 4 were improved, 1 was unimproved, and 1 died fifteen days later of apoplexy. Statistics of 229 cases collected from medical literature show 51.5 per cent. of recoveries, 26.2 per cent. of improvements, 13.9 per cent. of failures, and 8.2 per cent. of deaths. The rather high mortality is due to the fact that the operation is performed upon patients in an advanced state of cachexia. It goes without saying that the patients described as "cured" have not been relieved of inflammatory complications of the bladder, ureters, pelves of the kidneys or of the kidneys themselves; but it is none the less true that the results of this method of treatment are far superior to those obtained by other methods while it has the especial advantages described above. The chief danger of the operation is the possibility of hemorrhage and urethral fever. In order to avoid this the patient should be examined with the greatest care. The cystoscope should be employed, and a bacteriological examination of urine should be made; and before proceeding to Bottini's operation, an attempt should be made to overcome the prostatic hypertrophy by resection of the vas deferens on each side. If this intervention proves insufficient cauterization of the prostate should be performed.

The Result of the Treatment of Skin Diseases with Tuberculin R.—Napp and Grouven (*Arch. für Dermat. und Syph.*, Bd. xlvi, Hft. 3) report extensive trials of the new tuberculin which have been made in Doutrelepont's clinic for skin diseases. They report 39 cases in detail. The tuberculin was at first injected with normal salt solution, later with water containing 20 per cent. of glycerin. Most of the lesions were covered with moist antiseptic dressings at the same time that the tuberculin treatment was carried out. The general condition of the patients treated with tuberculin varied very much. The fever was of the well-known irregular type. Twice it happened without apparent cause that two strong young men presented severe, indeed alarming, symptoms of cyanosis, dyspnea, collapse, etc. All of the patients lost in weight. Albuminuria was insignificant. One patient developed icterus and cutaneous hemorrhages. The first dose used was as recommended by Koch, but each subsequent dose was about 1-5000 of a milligram greater. The local reaction was only once observed. Histological examination of areas which were apparently much improved showed that tuberculous tissue was still present but that infiltration was much reduced. A number of patients had recurrences after improvement. The authors conclude that tuberculin R. even if it does not produce a permanent cure still has a markedly favorable influence in that it attacks the tubercular process at the same time that it produces, if used with care, no serious disturbance of the general condition. This report is as favorable as any which has been given concerning its use in dermatological cases.

The Full Bath at 90°F. in the Treatment of Scarlatina.—Hanson (*Columbus Med. Jour.*, August 5, 1899), after experimenting with baths at different temperatures, concludes that in the treatment of scarlet fever a bath a 90° F. gives just as good results as one at a lower temperature and that it can be more safely used in asthenic cases and is more comfortable to the child and more agreeable to the attendants than the cold bath. If a bath-tub is not at hand, a large wash-boiler or wash-tub will answer every purpose. The child should be constantly rubbed while in the water in order to effect a rapid change of the blood in the surface of the body. Eight minutes is usually sufficient for the bathing. The child should be dried quickly and put in bed without stopping to put on a night-dress or other clothing. The bath should be repeated whenever the temperature reaches 103° F. or whenever the child becomes restless. The results are even more striking than those obtained with the Brand method in typhoid fever. The good effects consist in a reduction of temperature and a stimulation of elimination and of the circulation. A strengthening of the heart's action relieves the stasis of the skin and internal organs, a change which may be clearly observed by watching the congested conjunctivæ. The repetition of the bath minimizes nerve exhaustion and hastens convalescence. In no case in which Hanson followed this plan of treatment were there any complications or sequelæ. The more he used it the more confident he became of its good results.

Thrombosis of the Superior Mesenteric Vein.—Ballance (*Lancet*, July 3, 1899) reports an instance in which the above-mentioned lesion occurred in a man 68 years of age who had always been accustomed to eat heartily and whose digestion was apparently perfect. For three or four days he felt vague and irregular pains in the abdomen, more on the left side than on the right. While driving one afternoon the pain became more severe. Hot fomentations were applied and he passed a sleepless night. The following day he began to vomit and from that time until his death, two days later, he passed practically nothing from his bowels while vomiting became incessant. The pain and restlessness continued with collapse. The abdomen was not greatly distended. In short, he presented the picture of intestinal obstruction without localized tumefaction or distention. At autopsy the entire length of the small intestine was found dark greenish-black, shiny and distended, presenting the same appearance as small intestine in a strangulated hernia. In the upper part of the superior mesenteric vein there was a pale clot adherent to the walls and completely occluding the vein. The lower part of the vein and all of its radicals contained soft non adherent clots. The splenic vein was not thrombosed. There was no ulceration of the intestine. There was no peritonitis and the cause of the thrombosis was apparently the extreme feebleness of the circulation. The other organs contained a great deal of fat but were otherwise healthy.

The Medical News.

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THE PLAGUE THREATENS US.

In this country slight attention has been given to the bubonic plague and its destructive work among the inhabitants of India and no realizing sense of the danger that threatens us has been aroused. Like a smouldering fire, it has been gathering strength for four consecutive years, repeatedly bursting into flames that have leaped their barriers and ignited combustible material at remote points in divers directions. The Island of Formosa, in the East, Oporto and Lisbon in the west, Samarcand in Turkistan in the north and Delagoa Bay in the south are points of formidable attack from which it threatens with invasion the entire civilized world. Even the fancied security of our own shores, due to their remoteness, vanishes before the vigor of its onward march. The time has come to sound the alarm and awarken our remotest outposts to vigilance, alertness, and activity. These are no idle words. The British Empire has already been arraigned for its lack of vigilance and activity in failing to stamp out the disease at its inception. Europe has been derelict in allowing it to gain a foothold within her borders, and the responsibility of those who are charged with the duty of preventing its admission within our boundaries is great beyond measure. In the minds of many, Europe has stood as a reliable barrier between us and the bubonic plague, but now that this defense has been broken through in many places, the responsibility for our safety comes back upon ourselves.

Accurate scientific knowledge of this disease is steadily increasing, but as yet no specific remedy has been discovered, and a victim to its invasion must depend for relief mainly upon his inherent powers of resistance and the most scientific harboring of his strength by means of careful nursing. A serum has been produced which, as careful experimentation shows, renders immune a certain proportion of those who have been inoculated, and diminishes to a limited degree the death-rate among those attacked, but as yet its efficacy is not sufficient to warrant any guarantee of its power. The only sure safety lies in not coming within the range of the plague's infectious influence; in other words, in quarantine.

The plague goes hand in hand with famine, and just now finds a favorable ally in the failure of the crops in India. The disease itself is, therefore, taking on new vigor in its original haunts. In the Bombay Presidency alone it is slaughtering its victims at the rate of 2300 per week, and in August last it had already claimed a grand total of 164,083 deaths. There has occurred also recently a recrudescence of the disease at Alexandria, at Samarcand, and in the Island of Formosa. During the last few months it has followed the lines of commerce in various directions and spread over a wide territory. In addition to Hong Kong, it has invaded three important posts in China, and an equal number in Japan. It has crossed the Indian Ocean to the islands of Mauritius and Mozambique, and has also reached the East African coast at Delagoa Bay and the French Ivory Coast Colony. It has reached Busliore in Persia, Djiddah in Arabia, Kolobovka in Astrachan on its way to Russia, and even been carried to St. Petersburgh, where two cases have been reported, while the points nearest to us that have been infected are Oporto and Lisbon in Portugal. With its appearance at a locality on the Persian Gulf and at Kolobovka in Astrachan, a a direct route is opening through the Ottoman Em-

pire for invasion of Europe along that most dreaded line of traffic. This recrudescence demonstrates that the disease has gained not lost in virulence and in epidemic power.

The widespread invasion proves conclusively that existing quarantines are inefficient. The characteristic cycles through which the disease passes in its complete development, render it a most treacherous foe. Its initial period is characterized by slight virulence, rendering it difficult of recognition; then follows a serious outbreak with great fatality; then a period of subsidence invariably followed by renewed virulence and fatal activity. Ten days has been set as the limit of incubation, but it is recognized now that the bacilli may be carried in various ways, as under the finger-nails, and for even a longer period before inoculation, and the duration of quarantine therefore remains indefinite and insecure.

It is hardly time to speculate upon what direful havoc would be wrought among the slum and tenement-house population of our great cities, and the negroes of the South if once this insidious disease should pass our borders. Of the possibility that it may reach our shores at any day there is no doubt. Our safety lies in meeting it at our maritime quarantine with certainty, with unflinching firmness, and most destructive methods. That the members of the Marine Hospital Service and other quarantine officials are alive to the situation is evinced by the fact that some of their most expert diagnosticians have gone abroad to meet the invasion at various points of its approach, to become familiar with the symptoms of the disease, and to insist upon proper inspection of all merchandise destined for these shores.

THE BRITISH EMPIRE RESPONSIBLE FOR THE PLAGUE.

In a letter to the *British Medical Journal* of September 16, 1899, Dr. Wilfred Watkins-Patchford, late Special Plague Medical Officer in the English Service, and author of the Report on Antiseptics issued at Bombay last year, makes the following rather startling protest against the position that has been taken by the British Government in India with regard to the study of plague and the investigation of the best means for its prevention:

> The unique opportunity afforded to the Indian Government of systematic research into the disease by scientists of accredited standing has been neglected. I unhesitatingly affirm that scientific research into the plague has not been in any way encouraged by the authorities; the problem has been dealt with on the lines of a civil misfortune to our Indian dependency, while the momentous interest which the disease has for the whole human race has been left to the consideration of a few private individuals.

The accusation is so serious a one that we have waited for the succeeding issues of the English medical journals before commenting on it. It seemed almost a foregone conclusion that some attempt at least would be made to explain away the serious negligence on the part of the British Indian authorities, so frankly put in accusation by one who, it is to be presumed, is in a position to know. The explanation has not been forthcoming. A feeling has been growing in the medical world for some time that the plague might have been kept more thoroughly under control in the East if the British Government in India had been more ready to use all the resources that modern hygiene and sanitation had placed at its command. The civilized world has a right to demand that the British authorities in India shall omit nothing that can help to lessen the continual danger from the plague, which has now become a continual, harassing threat.

We realize the difficulties of the situation, and have called attention in our columns more than once to how seriously the Government's attempts at enforcement of sanitary measures are hampered by the ignorance, and still more by the religious fanaticism of the people. We cannot help thinking, however, that the existence of plague in India has come to be looked upon by the British authorities in India too much as a matter of course.

There is "the white man's burden" to bear for the world in this matter, and no routine regulations or ordinary methods a little more strictly applied will suffice for this serious juncture. Special measures and special men are required. Sporadic efforts at times of awful mortality, to be intermitted when the well known remissions of plague virulence occur, will never suffice. Portugal has been seriously arraigned because plague existed in that country for nearly two months before its official announcement. We fear that there would be many and more serious faults than this to be laid at the door of the British Indian Government if the details were but known.

What Dr. Watkins-Patchford demands by implication must be insisted upon by civilized nations. The problem must not be dealt with merely on the lines of a civil misfortune to the Indian dependency, but England must realize the momentous interest which the disease has for the whole human race, and her plans for its complete eradication must be on a corresponding scale. The British Empire owes this to herself if she is to justify her mission to the world as the great civilizer and fosterer of progress.

THE NEWER THERAPY OF GONORRHEA.

It was the discovery of the specific organism of the disease by Neisser two decades ago and its subsequent more elaborate exploitation by Bumm that gave an important impetus to the study of the course and effects of gonorrhea. The medical mind was slowly forced to a realization that perhaps this malady, which in spite of its distressing nature had always been regarded as a matter of merely passing interest and to be treated lightly in a quasi-jocular way, might be a much more serious thing than had been supposed, and this uneasy suspicion was gradually succeeded by the absolute conviction that for gravity of consequences and variety of possible sequelæ its capacity was almost unlimited. And when the gynecologists took up the cry and denounced the infection as a two-edged sword which often cut deepest in innocent flesh, and after the lapse of years could produce in an unsuspecting wife consequences out of all proportion to the initial severity of the trouble in a long-ago erring husband, the full import of the situation was recognized and the time-honored methods of treatment began to be abandoned and search made for surer and more definite remedies. The synthetic chemist has not been slow to respond to the demand, and the last half dozen years have seen produced and extravagantly advertised as many so-called specifics—kaleidoscopic combinations each of them, in which silver is the central and active constituent, surrounded by picturesque graphic formulæ of albumins, nucleoproteids, diethylamins, etc., added with the object of diminishing its irritating properties and increasing its penetrating power.

Kopp of Munich (*Münchener Medicinische Wochenschrift*, August 1 and 8, 1899) presents a careful comparative analysis of the most important of these preparations and though the observations of a single investigator are never conclusive, especial importance attaches itself to his results inasmuch as they were obtained from perfectly fresh first attacks and exclusively from private patients, in whom it was possible to follow definite lines of treatment with exactness, rather than from dispensary patients, notoriously hard to control.

Argentamin (ethelyndiamin silver phosphate) was found to be markedly irritating even in solutions of a strength of 1 to 4000; decidedly more so than the usual silver nitrate solutions. No permanent disappearance of the gonococcus could be effected and no cures resulted from its unaided use. A growing toleration for it, permitting its application in more concentrated form, was not observed.

Argonin (silver casein). Although less irritating than silver nitrate, in most cases it is inferior to the latter in efficacy. Up to a strength of four per cent. it usually does not irritate though sometimes even two-per-cent. solutions cause symptoms requiring its abandonment. Its expense also is against it, and its sphere of usefulness seems to be limited to those cases in which it is essential to avoid irritation as much as possible and in which the use of silver nitrate, therefore, is not permissible.

Protargol (silver protein). Considerable confusion has arisen as to the merits of this preparation, owing to the fact that prior to June, 1898, samples of varying composition and strength were on the market. Since then the character of the remedy has been constant. Its use presents the feature, agreeable to the patient, of causing little irritation and a rather speedy checking of the discharge, though the discomfort attending the daily thirty-minute injections recommended by Neisser perhaps more than offsets these factors. On the whole it presents no decided advantages over silver nitrate.

Largin (silver protalbin). Although distinctly not to be considered as an abortive, still the use of this drug in the early stages of the infection seems to shorten its duration. Usually it irritates about as much as silver nitrate, and possesses no marked superiority over it.

Itrol (silver citrate). This preparation, so strongly advocated by Crede, seems to possess real merits. Its cheapness and the dilution of the solu-

tions employed (0.05 to 200) are in its favor; its disadvatages are the difficulty of preparing aqueous solutions and the rapidity with which these decompose. It is also much commended as having great pen etrating power though the extent to which this is true is probably more limited than is generally supposed. Its undoubtedly strong bactericidal powers, however, and the fact that complications such as posterior urethritis, etc., seem to occur but seldom with its use are sufficient grounds for recommending it to a prominent place in gonorrheal therapy.

Hydrargyrum oxycyanatum. The urethral mucous membrane evinces a considerable toleration for this reagent, solutions of 1 to 3000 or 1 to 1000 having produced no unpleasant results. In general it resembles protargal in its action and has no greater claims to specificity than its predecessors.

Janet's irrigation method with potassium permanganate has proved disappointing, in the author's hands, both as an abortive agent and in the treatment of the acute form of the disease. In chronic and posterior urethritis, however, it is most valuable and satisfactory; if gonococci were still present in the secretion silver nitrate, 0.2–0.5 to 1000, was used; after their disappearance potassium permanganate, 0.3 to 1000.

In short, it appears that though these various preparations may each have specific points of excellence, none of them can be designated as a specific for the disease; and though some, especially protargol, itrol, and the oxycyanate of mercury, are distinctly less irritating than silver nitrate they do not seem destined to drive that hardworked reagent from urethral fields.

Although to the eye of the stern moralist the dread of a possible infection presents a most potent incentive to continence, still under existing social conditions, and in dealing with a malady so far reaching in its consequences as this no means of restricting its spread should be neglected. Indeed it is quite worthy of belief that the universal dissemination among the laity of the fact that a few drops of a twenty-per-cent. solution of protargol in glycerin, instilled into the fossa navicularis after a suspected coitus, will secure almost perfect immunity from infection would react only in a beneficial manner on the welfare of the race. It is at least an experiment well worth the trial.

ECHOES AND NEWS.

Women Physicians in England.—In London and the provinces there are no fewer than thirty-seven institutions officered wholly or partially by women physicians.

Dr. Clark Appointed Professor of Gynecology in the University of Pennsylvania.—Dr. John G. Clark, formerly of Johns Hopkins University, has been appointed professor of gynecology in the University of Pennsylvania, to succeed Dr. Charles B. Penrose, who resigned at the close of the last term.

A Doctor's Bequest to the Harvard Medical School.—It is announced that Dr. Galvin Ellis, Harvard class of '46, who died in 1883, and whose will has just been probated, left to Harvard University $140,000. Most of this sum is to be devoted to the education of his descendants, and also to the maintaining of three professors at the Medical School.

Inspection of Immigrants.—Dr. Doty of the Quarantine Station in New York harbor sailed for Europe on October 10th to consult with foreign officials, chiefly at Bremen, concerning an improvement in the present methods of excluding, at the point of embarkation, emigrants who are infected with smallpox, typhus, or typhoid fever.

The Rat-trap as a Plague Cure.—According to a despatch from London, considerable attention was attracted to the recent meeting of the School of Tropical Medicine, at which Dr. Manson declared that cholera is waterborne, malaria mosquito borne, and the plague rat borne, and tersely defined preventives against these scourges to be "tea-kettle, mosquito-net, and rat-trap."

Larkspur Poisoning —Two women, who were patients at the Loretto Home, New York City, died on October 7th of larkspur poisoning. The drug was in solution in wood alcohol for the purpose of destroying vermin. These unfortunate women came under treatment to be cured of alcoholism. They drank the solution because it smelled of alcohol and without any knowledge that it was poisonous.

Bowdoin's Clinical Work at Portland.—Of special interest, because it is the second important medical school that is to have its theoretic and its practical teaching in different places, is the following announcement from the faculty of Bowdoin Medical College: The medical students of Bowdoin College will receive instruction during their last year at Portland, where suitable buildings are now be ng erected, and where they will have improved clinical facilities. After 1900 the course will be four years in length, the first two years being spent at Brunswick, and the second two years at Portland.

Jews Aid a Catholic Hospital.—St. Vincent's Hospital, a Catholic institution situated at Norfolk, Va., was burned recently, and several lives were lost in the fire. Money

to aid in rebuilding the hospital is being raised by popular subscription. The Ladies' Hebrew Benevolent Association of Norfolk contributed $100. This incident is not unlike one which occurred several years ago in this city. A Presbyterian church in Twenty-third street was burned down. The use of the beautiful Synagogue at Forty-third street and Fifth avenue was offered this congregation. The offer was gratefully accepted, and for many Sundays these Christians worshiped there. Truly, if the world is not growing better it is at least becoming more tolerant.

A New Medical Directory.—"The Medical Directory of New York, New Jersey, and Connecticut for 1899," edited by Dr. E. Eliot Harris, under the auspices of the New York County Medical Association, has just made its appearance. It is a handsome volume of nearly 900 pages, and contains the names of 19,161 registered physicians, dentists, and pharmacists, in addition to the by-laws of the Medical Associations and Societies of the three States named, and the laws relating the practice of Medicine, Dentistry, and Pharmacy, including the New York Dispensary Law. The book reflects great credit upon those having its publication in charge. Copies may be obtained from Dr. O. C. Ludlow, 2309 Seventh avenue, New York City, at $2 each.

"Divine Healer" to Blame. — Dowie, the "Divine Healer," Christian Scientists, and all others of that ilk, are held responsible by Chief Inspector Herman Spalding of the Health Department of Chicago for the present prevalence of scarlet fever and diphtheria among the school children of that city. "When we are notified," said he, "of a case of this character we can handle it without any great trouble, but when it is kept secret it is impossible to tell what the result will be and where it will end. The peculiar belief that teaches us to close our eyes and call upon the Lord to do the work of the doctor and sanitarian has helped ignorant parents in the work of spreading preventable contagious diseases. The beauties of this method of treatment are to be found only in the wealth of flowers placed upon little graves."

The Yellow-Fever Situation is decidedly improved. The cold weather at the beginning of last week seemingly destroyed to a large extent the contagiousness of the germs of the disease. At the end of last week one new case was reported in New Orleans and there were no deaths from the disease. There was a slight recrudescence of the disease at the beginning of the present week, two new cases having occurred on Sunday and two more on Monday. The fever is very mild in form. As we go to press some ten patients in all are under treatment in that city. In Key West, while the improvement was not so radical as in the Mississippi region because the cold had not been so noticeable, there was a marked falling off in the incidence of the disease, less than half as many cases per day being reported as during the previous week. The disease retains its mild, non-fatal character and the number of deaths is less than 12 per cent. of the new cases reported. It is believed by the sanitary authorities now that the end of the epidemic is in sight.

A Hotel Syndicate and a Scientific Association.—*Science* is our authority for the following statement. According to certain letters that appeared in the London *Times* shortly after the recent meeting of the British Association for the Advancement of Science at Dover, it appears that an English Syndicate engaged in advance all the hotel accommodations in Dover for the week of the meeting and relet them to members of the Association at extortionate rates. Verily our English cousins are advancing in the ways of this world. Suppose something like this should happen in America what a virtuous howl of indignation would it not be greeted with? What diatribes would we not have on the contemptibly sordid commercial spirit that has invaded everything American? There is a lesson in it all for scientific societies and especially medical societies since they meet so frequently and their meetings are as a rule so well attended. It would seem to read about as follows: Do not accept invitations from the smaller towns, unless assurance is given that the presence of so many members shall not be made the opportunity to exploit them by the unsympathetic townspeople.

The Scientific Spirit —The excellent paper which Sir Michael Foster, the president of the British Medical Association, read on September 13th, on the occasion of the visit of the members of the French Academy of Sciences at Dover, contained the following passage: "As I have already urged, no feature of scientific inquiry is more marked than the dependence of each step forward on other steps which have been made before. The man of science cannot sit by himself in his own cave weaving out results by his own efforts, unaided by others, heedless of what others have done and are doing. He is but a bit of a great system, a joint in a great machine, and he can only work aright when he is in due touch with his fellow-workers. If his labor is to be what it ought to be, and is to have the weight which it ought to have, he must know what is being done, not by himself, but by others, and by others not of his own land and speaking his tongue only, but also of other lands and of other speech. Hence it comes about that to the man of science the barriers of manners and of speech which pen men into nations become more and more unreal and indistinct. He recognizes his fellow-worker, wherever he may live and whatever tongue he may speak, as one who is pushing forward shoulder to shoulder with him toward a common goal, as one whom he is helping and who is helping him. The touch of science makes the whole world kin."

The Improvement of Havana.—On this subject the *Scientific American* said editorially last week: "General Ludlow's report as commander of the Department of Havana, and as military governor of the city of Havana, covers the period of our occupation up to September 5th. It shows that the problem of reorganizing the government of Havana and the uplifting of the city from the filth and neglect in which the Spaniards left it, has been

taken in hand with characteristic system, energy and thoroughness. The physical condition of the city at the time of the Spanish exodus was simply shocking. Starvation and death were matters of every-day occurrence. Neglect of the most common sanitary precautions had raised the death-rate to alarming figures, which exceeded greatly the all too heavy prevailing death-rate of the city; and the inevitable restlessness and lawlessness following the removal of the Spanish troops were everywhere conspicuous. While much remains to be done and many problems are awaiting solution, there is just cause for congratulation from the fact that the death rate, for instance, in June, July, and August was lower than the average for the same months during the past nine years, not even excluding the two calamitous years of the war, 1897 and 1898; while the indications are that the total number of deaths for the current year will be only half the number during 1898. The deaths per month during 1898 were only 162, which is the lowest since 1890."

Female Army Nurses Wanted. — Dr. Anita McGee, United States Army, is at present visiting Mrs. Mary H. Willard, the president of the Metropolitan Trained Nurses' Club at 104 West Forty-first street, and is anxious to meet and talk to any one who wants to be an army nurse. Dr. McGee states that since the beginning of the war there have been 1700 nurses in the service. There are now 200 in the service and 200 on the waiting list. Army nurses, who must be graduates of regular training-schools, have their living and traveling expenses paid, a yearly thirty days' furlough, and when assigned to duty in this country $40 a month and when assigned to duty elsewhere $50 a month. These salaries include lodging and rations. Each nurse wears a beautiful uniform, a description of which is beyond the writer's capabilities. There is a chief nurse for each hospital, whose pay depends upon the number of nurses under her. If less than ten, she gets $10 a month extra. If more than ten her wages are increased $25 a month. The nurses are assisted in their work by the men of the hospital corps, who are not trained nurses. A new hospital, states Dr. McGee, is building at Manila, which will be the largest army hospital owned by the United States. It will accommodate 2000 persons. The hospital used at present was meant to take care of 500 sick and wounded soldiers, but there are now more than 1500 in it. It is in charge of Surgeon General Woodhull, to whom Dr. McGee accords high praise. Our next largest hospital is at Presidio at San Francisco, which will accommodate 1000 persons.

Supreme Court Decision as to Medical Consultants. — A decision rendered October 4th on this subject by the Appellate Term of the Supreme Court of New York State is of special interest since it reopens a case. A lady stopping at a hotel having suffered an accident to her elbow, the physician usually summoned by the hotel manager was called to treat her. He was unknown to both the lady and her husband, but was permitted to remain in charge of the case. He summoned a consultant who came altogether six times. The bill of the hotel physician was $70, that of the consultant $175. The patient's husband refused to pay and on suit judgment for the amount was given against him in the Municipal Court. He carried the suit to the Supreme Court. A reversal was directed by the Appellate Term, in an opinion per curiam, Presiding Justice Freedman and Justice Leventritt stating that justice would be best promoted by a retrial, "so that the proof of the value of the services of the plaintiff and of the consulting surgeon might be more clearly established." Justice McLean also gave an opinion in favor of reversal, saying in conclusion: "There was no justification by custom or otherwise in plaintiff's employment of a consultant without a frank and full statement of the situation to the patient and the defendant, and learning their wishes concerning the professional persons to be brought in. There cannot be properly applied to the facts shown here any custom multiplying ordinary professional charges five or ten times under the shield of a layman's ignorance, because it is subversive of justice that charges should be so largely increased by a custom not made known at all to the patient or to her husband."

The whole matter would seem to be the result of a real or pretended misunderstanding on the part of the defendant of the status of a consultant in a case of this kind. It would be interesting to see with what short shrift a similar case involving a legal consultant would be disposed of by their honors.

The Plague Situation generally is about as it was, certainly no better. Though the daily papers have ceased entirely their reports as to the matter, and popular interest in it in other countries has died out, the plague still continues to be mildly epidemic at Oporto. About a dozen cases occurred during the last week in September. Altogether about 100 cases with about 40 deaths have occurred in Portugal. After the recent fall in the temperature the number of cases increased. The rumor that cases of the disease have occurred in other parts of the Peninsula is denied. Arrangements have been made to allow the factories to begin work again, and their manufactures will be permitted to leave Oporto after a careful disinfection. The favorable report as to the effect of Yersin's plague serum that we quoted last week has been confirmed by further experience. No deaths have occurred in any cases that were treated with the serum, though the death-rate has been, as noted above, about forty per cent. during the epidemic. The situation in India is not very reassuring. We clip the following notes from the last issue of the *British Medical Journal*: "In the city of Bombay eighty-nine deaths from plague occurred during the week, September 19th. Throughout the Bombay Presidency the numbers show little change. The last news from Poona was to the effect that a sudden drop in the number of plague cases had occurred, and, from being at the rate of over 100 cases a day, the number fell to *nil* within a week. This week the report is that the condition of affairs in Poona and district has much improved, but, on the other hand, plague is stated to be increasing among Europeans. This is but a repetition of the history of plague in every town; during the first outbreak it is quite exceptional for plague to attack Europeans, but during a recurrence Europeans contract

plague in increased numbers, although in no Asiatic city have they suffered severely. Forty-four deaths from plague occurred in Calcutta during the week ending September 19th. Calcutta affords perhaps the best example of the occurrence of plague in a chronic as contrasted with the epidemic form. There has been no scaring epidemic of plague in Calcutta, but for well-nigh eighteen months deaths from plague have persistently occurred." The report that plague was occurring in Portuguese East Africa is confirmed. The news comes from Lourenco Marques, a town that, owing to the shipments of munitions of war to the Boers, has become well known through the daily press. Twelve cases believed to be plague have occurred at Magude, a suburb of Lourenco, and two of them were fatal. The village of Pombacas has been isolated and many dwellings burned. From Russia a note of alarm is once more sounded. Prince Alexander of Oldenburg, president of the Plague Commission, has recommended the municipal authorities to establish night camps and huts capable of accommodating 1000 persons in view of the outbreak of plague. We reported the occurrence of some cases in Turkey in Asia last week, and now it is announced that the whole of the Syrian coast has been placed under quarantine because of reported cases of the disease in the seaports. With regard to Asuncion, Paraquay we clip the following from the *British Medical Journal* for September 30, 1899, as we have no definite details of later date: "The sanitary authorities of Montevideo, Uruguay have received a report from the special commissioners sent to Paraguay to investigate the reported outbreak of plague in Asuncion, to the effect that 'the symptoms displayed in the cases in question confirm beyond all doubt the suspicions entertained as to the character of the disease. We presume that, in the belief of the commissioners, plague does exist at Asuncion. As this is the first time plague has ever visited America, and as the isolated spot in which it has developed is some 600 miles from the sea coast, we must still hesitate to accept the existence of plague there as being conclusively proven."

MEDICAL MATTERS IN PHILADELPHIA.

MEETING OF THE COLLEGE OF PHYSICIANS—ARTERIOVENOUS ANEURISM OF SCARPA'S TRIANGLE—ESTATE OF THE LATE DR. WILLIAM PEPPER—HOSPITAL OF THE MEDICAL EMERGENCY CORPS—ANTICIPATING ANOTHER SMALLPOX EPIDEMIC—OPENING EXERCISES OF JEFFERSON MEDICAL COLLEGE, THE MEDICAL DEPARTMENT OF THE UNIVERSITY, AND OF THE MEDICO-CHIRURGICAL COLLEGE—DR. ASHTON APPOINTED PROFESSOR OF MEDICINE.

PHILADELPHIA, October 9, 1899.

AMONG the papers read at the first fall meeting of the College of Physicians of Philadelphia, was an interesting communication on the subject of "Arteriovenous Aneurism of Scarpa's Triangle," presented by Dr. W. Joseph Hearn. A brief abstract of the history of the case is as follows: The patient, a well-developed negro, of forty years, and presumably without a previous history of syphilitic infection, began five months ago to notice the presence of a small growth about the size of an English walnut in the central portion of Scarpa's left triangle; the tumor rapidly increased in size, until at the time of the operation it had attained approximately the size of a large cocoanut, and was the cause of much suffering and discomfort to the patient. The tumor was felt below the skin as a somewhat conical, smooth, elastic mass, distinctly pulsating with each heartbeat, and being the seat of a plainly audible bruit. No pulsation of the vessels of the leg below the tumor could be detected. The first step in the operative procedure was the ligation of the external iliac artery through Abernethy's incision. An effort to expose the femoral below the site of the tumor was then made, but temporarily abandoned. The tumor was then incised, and a large quantity of blood turned out, severe hemorrhage ensuing from the bottom of the cavity thus opened. This bleeding was controlled temporarily by firmly packing with gauze, but again recurred on the removal of the packing, the second hemorrhage being finally controlled by digital pressure both above and below the cavity. The artery was then ligated at two points, above and below the site of the hemorrhage, and the femoral ligated in Hunter's canal. Bleeding still continued, and on removal of the remains of the aneurismal sac the vein was seen to open into it, so it became necessary now to ligate the femoral vein above and below the point of bleeding, in order to control the hemorrhage. The wound was drained with iodoform gauze, and closed with silkworm-gut sutures. The hemorrhage, during the operation, became so alarming that it was necessary to give the patient intravenous transfusions of normal saline solution to the extent of three pints of the fluid. The patient made an uninterrupted recovery, and was discharged from the hospital, cured, within seven weeks after the operation.

Concerning the etiology of the condition in this case, Dr. Hearn remarked that the only causal factor appeared to be the nature of the man's occupation. The patient, a carter, in loading his cart with earth, had always been in the habit of using a short-handled spade, the handle of which he habitually pressed against his thigh over Scarpa's left space, to drive the blade of the tool forcibly into the earth. Often he was compelled to exert the entire weight of his body in accomplishing this, so that continual and forcible pressure over the situation of the tumor was made for a long period. The speaker considered that the cause of the involvement of the vein in the aneurism was not the traumatism, but rather that it was due to erosion of the walls of the vein from pressure by the distended sac of the aneurism, and to inflammatory exudate matting together the walls of the vein and the sac of the tumor. Dr. Hearn expressed the view that the ligation of large vessels for aneurism is not to be usually considered as fatal an operation as generally thought—in his hands it had been uniformly successful, he never having had a death, which might have been partly due, he said, to the fact that his experience in these operations had been limited to the days of antiseptic surgery. The point of chief interest in this case is that the collateral circulation was sufficient to prevent gangrene of

the limb, notwithstanding the fact that both artery and vein were ligated above and below Scarpa's space. In conclusion, the speaker expressed his preference for the use of silk ligatures in such cases, having always employed this material to the exclusion of catgut.

The first account of the estate of the late Dr. William Pepper has been filed by his executors and trustees. The total value of the estate amounts to more than three-quarters of a million dollars. It will be recalled that Dr. Pepper devised $75,000 to the University of Pennsylvania as an endowment fund to the William Pepper Clinical Laboratory.

The Philadelphia Medical Emergency Corps has opened a hospital on the grounds of the National Export Exposition, the building being situated in a prominent part of the main avenue, and is admirably adapted for the purposes it is intended to fill—the treatment of medical and surgical emergency cases occurring among visitors to the exposition. There are two large rooms for patients; one, a ward of four beds; the other, an operating-room and dispensary, and a drug-store. A bicycle-ambulance is to be added to the equipment of the hospital in a few days.

The Department of Public Safety, through its chief, Director English, has requested from Councils an appropriation of $25,000, to be used for repairs and additions to the Municipal Hospital. The authorities assert that they anticipate another smallpox epidemic this winter, and that in its present condition of ill-repair and of antiquated equipment it will be impossible to properly house and care for the victims at the Municipal Hospital.

Under the most auspicious circumstances, in the presence of a large and distinguished audience the new college buildings of the Jefferson Medical College were formally opened and dedicated on the evening of Tuesday, October 2d. The opening exercises were held in the large amphitheater in the new Walnut street building, the proceedings of the evening being of the character of an ovation, in celebration of the completion of the new laboratories and college buildings.

The exercises were opened by a short address by the President of the Board of Trustees, Ex-Minister to Italy William Potter, who reviewed the recent improvements made at the institution, and spoke of future changes which he hoped the friends of the college would, by their generous aid, make possible. At the conclusion of his address, Mr. Potter introduced the presiding officer of the evening, Dr. Thomas Addis Emmet of New York, of the class of '50. After the opening prayer by the Rev. J. Andrews Harris, D.D., Dr. Phineas L. Connor of Cincinnati was introduced, and made the principal address of the evening.

Dr. Connor, in opening, remarked that "The years of Jefferson cover more than one-half the period in which there has been collegiate training in America, and when, in 1825, McClellan, Eberle, Smith, and their colleagues began their labors, medical teaching in the few existing schools was hardly other than supplementary to private instruction in the offices of preceptors. Prior to 1813 there were but two medical schools in New England, four in the Middle States, and not one south of the Potomac, or west of the Alleghanies."

In conclusion the speaker referred to the ideal methods of clinical training now in vogue in all metropolitan teaching-hospitals, spoke of the attitude of kindness and sympathy which the student should uniformly bear toward suffering humanity, and invoked the personal influence of every undergraduate present to continue in the good work pursued by Jefferson graduates during the last three-quarters of a century.

Surgeon-General Sternberg, United States Army, was then introduced, and made a brief address dealing with the pioneer days of bacteriology, and of the wonderful practical advances made during recent years in this branch of medicine. He then spent an interesting fifteen minutes in the discussion of the peculiar advantages enjoyed by the present commissioned medical officers of the army, as compared to their predecessors thirty years ago.

At the conclusion of the exercises the guests of the evening were shown through the various departments of the new college building, following which a reception to the alumni was held in the library. Early in the evening President Potter gave a dinner at the University Club to the distinguished guests, among whom may be mentioned Surgeon-General Sternberg, Drs. Connor and Emmet, Provost Harrison of the University of Pennsylvania, Talcott Williams, LL.D., and Mayor Ashbridge.

The opening exercises for the session of 1899–1900 of the Medical Department of the University of Pennsylvania was held October 2d, in conjunction with those of the Department of Dentistry and of Veterinary Medicine. Provost Harrison delivered the introductory address, and the deans of the various departments delivered addresses to their respective classes of students.

The session of 1899-1900 of the Medico-Chirurgical College began October 2d, the opening address being delivered by Dr. John V. Shoemaker. An address on "Reform in Medical Education" was also delivered by Dr. Charles W. Burr.

Dr. Thomas G. Ashton has been appointed clinical professor of medicine in the Woman's Medical College of Pennsylvania.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

MESMERIC HEALER IN LONDON—SPLIT IN THE "PECULIAR PEOPLE"—JEWISH MUNIFICENCE TO HOSPITALS—FOOD POISONING AT ALDERSHOT—FATAL FALL OF A SOMNAMBULIST—MEDICAL VOLUNTEERS FOR THE TRANSVAAL—DOCTORS AND NURSES FOR PLAGUE DUTY IN INDIA—AN "ELECTRIC RETINA"—A MEDICAL PRESIDENT-ELECT FOR THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE—DOCTORS AND UNDERTAKERS AGAIN.

LONDON, October 1, 1899.

WE speak of the age of superstition as over and gone, but if we want to get a whiff of the Dark Ages, all we need do is to step into the air of a sick-room. A "mesmeric healer" has been here the past few weeks in full

blast in a fashionable street and attracting the most distinguished personages. The magic of his eye is all the remedy employed by him and he accepts no fees for his services but—there is a plate at the door where grateful patients may relieve their feelings in cash deposits. These fleecers know their dupes to the very tails of their P's and Q's. Any one who is fool enough to believe that he can be cured by the glance of an eye is ready to believe that he could be blighted by the same agency and he will deposit liberally against such a contingency. To think of evading the law against unqualified practitioners and making your patients "sure pay" at one stroke! It takes genius to be a sharper and if we honest men don't succeed, it's not because we're honest but because we're stupid. We'd make no better success as rogues, although we love to console ourselves with the thought that we would.

On the other hand, a cheering ray of progress and common sense breaks through the fog of superstition where we least expect it. Those "Peculiar People" who killed Harold Frederic, with his own able assistance, and who are continually vexing the souls of the judges by appearing to answer to a charge of manslaughter for letting a child die, are about to reduce their already small numbers by a "split in the church." One of their leading elders named Grey, in a lucid interval was recently guilty of the heinous offense of calling in a physician to relieve the sufferings of his child. For this lapse into sin he was promptly "dealt with," but stiffened his neck and said he'd do it again under the circumstances and the church might go hang. Whereupon nearly half the church endorsed his sentiments and now each half is trying to turn the other out. Even religious convictions can't quite waterproof men's brains against common sense and decency nowadays and this body of Peculiar People (long may they remain so by contrast!) are now doing openly and clumsily what the Christian Scientists have been doing privately and with artistic mendacity for ten years past. Their faith is so pure and high that they must relapse from it occasionally to keep in touch with it at all and each time is to be the last and "don't count" like Rip Van Winkle's dram.

It is a happy and appropriate coincidence and typical of a most prominent side of the Jewish character that just as one half of the civilized world is denouncing and abusing the Hebrew, one of the West of England hospitals should be presenting to a Jewish baronet, Sir Massey Lopes, his portrait painted in oils, as a memorial of long-continued service to the hospital, and gifts to the amount of nearly $100,000. Among all the numerous things that may be said for and against the Hebrew, the medical profession has nothing but good to contribute. In whatever other respects he may be lacking, he is never so when the call comes from the sick and afflicted. To his own people he is kindness itself but his charity is far indeed from ending there and when a new ward is to be built, or a hospital deficit met, we medical men well know that in their direction one may turn with certainty of a generous response. Scarcely a Jewish community of five hundred souls is to be found in any of our English or American cities which does not count among its members a man of the type of Moses Montefiore and Baron Hirsch! Men who would fight a business deal down to the last fraction of a cent, "upon instinct," simply because they couldn't help it, they must play the great game in its full rigor, but whose purse-strings are slackened at once to the cry of destitution or suffering.

Some forty soldiers at Aldershot have been suffering from a severe form of food-poisoning which culminated in the death of one of them. The attack is believed to be due to some canned fish, sardines and salmon, which the men had purchased at canteen and of the licensed vendors about the camp. The precise brand of goods has not yet been identified but the military authorities have issued a rather sweeping and "shot-gun" order prohibiting the sale of any canned goods whatever at these stands or of any pies not baked in the camp kitchens.

One hears so much of the curious old belief that sleep-walkers can come to no harm during their somnambulistic vagaries, no matter how dangerous the places they may venture into, that a clear proof to the contrary is not without interest. An inquest has just been held upon the body of an unfortunate soldier, who, while walking in his sleep is believed to have found his way out on to the roof of the barracks. Next morning he was found in the barrack square with a fractured skull and spine and died in in a few hours.

The strong feeling in regard to impending trouble in the Transvaal is affecting even the medical profession. The surgeons attached to the volunteer regiments, corresponding to our militia, have been approached by the Government with reference to their willingness to enlist for service in South Africa in the event of war. It is stated that a majority of them have replied in the affirmative.

So obstinately does the bubonic plague hang on in Bombay that the India Office has just secured and is about to send out a fresh detachment of twenty physicians and thirty nurses for plague duty in India. Many of these though young have seen plague service before and so go thoroughly forewarned and prepared to do the best possible both for others and for themselves.

A good deal of attention is being devoted in the lay press here to the claims of an alleged Russian scientist, Dr. Stiens, to furnish sight to the blind by electricity. We have learned through numerous experiences to be distinctly suspicious of the wonders which are proposed to be wrought for the ailing simply "by electricity." This bright force is a sort of modern philosopher's stone and its name a word to conjure with, to the multitude. Stiens does not condescend to give any details or explanations of principle, whatever, which is not reassuring, but merely states that he can by passing a certain current through a man produce in him a sort of "electric eye," through which the *brain can perceive the light rays directly* without any further need of either retina or optic nerve. How this is done is as yet a mystery, also whether it is done at all or not. Several guileless reporters have been blindfolded and then made to see objects through the bandages and through wooden

screens or say they have, and one newspaper scientist is sure the X-rays are at the bottom, because they can penetrate linen bandages, forgetting that the retina cannot perceive them in any case. There is, of course, a bare possibility of truth about the claim, inasmuch as the light-rays which fall upon the retina are transmuted in some way for transmission to the brain, possibly into some electrical equivalent. At all events they do not pass along the optic nerve as light-rays, and if M. Steins' apparatus can transmute the light-rays into their optic-nerve equivalents, then it may be possible to see without a retina. But it is a *very* large "if."

It really looks as if medical men were beginning to get their fair share of honors, scientific ones at least. Here are three members of the profession in succession in the presidential chair of the British Association for the Advancement of Science with only a year between. Lord Lister, Sir Michael Foster, the present incumbent and Sir William Turner the president-elect for next year. Sir William Turner is best known abroad as an anatomist and anthropologist and for many years the guiding spirit of the great medical school of the University of Edinburgh. Here he is also intimately known to and beloved by the profession as President of the General Medical Council, the Executive Committee and Senate of the British Medical Association.

The war upon secret commissions in the medical profession is still raging in the columns of both the lay and medical press. The profession not unnaturally bitterly resents collusion with undertakers and consequent indifference to or even interest in the death of their patients being held up as a sample of what not only exists but may become dangerously prevalent if the "commission habit" be not checked. It is justly felt that such an accusation as this, based simply upon the allegations of one druggist and one optician, that physicians expected commissions from them, neither of the accusers daring to give their names, is hardly little short of monstrous from an ex-judge who is supposed by his position to have some knowledge of the laws of evidence. Sir Edwin Fry is out in another long letter to the *Times* in which he reiterates his former nameless depositions as adequate "evidence;" not, he now admits, for condemnation or even general accusation but for "inquiry." How anybody is to inquire into charges to which neither dates, names or particulars of any sort are attached he does not vouchsafe to say.

There is no question that Dr. Saundby's unfortunate statement that after investigating such charges as it could hear of the Medical Council found that in no case were commissions offered in advance as inducements to certain lines of action but "only as presents for favors conferred," leaving it to be implied, what he was very far from meaning, that the acceptance of "presents" was a comparatively trivial and venial affair, has made an unfavorable impression. And it also furnishes Sir Edwin Fry with the fresh ammunition of which he was sadly in need.

The extravagance of Sir Edwin's first insinuation that there was serious danger of doctors letting their patients die in order to secure heavy "presents" from undertakers, has defeated his own purpose and cast general discredit upon the whole crusade. The public takes but little interest in the matter and most of the letters in the newspaper are from medical men, most of them treating the insult with the silent contempt which it deserves, but frankly admitting that there are numerous little financial collusions as to drugs, mineral waters, wines and occasionally instruments and appliances, not in any way criminal, scarcely even immoral, but undignified and undesirable.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held May 4, 1899.

The President, William H. Thomson, M.D., in the Chair.

The first paper of the evening, entitled

ANEMIA AS OBSERVED IN GYNECOLOGICAL PRACTICE WITH SOME PRACTICAL SUGGESTIONS AS TO DIAGNOSIS AND TREATMENT

was read by Dr. W. Gill Wylie. He said, in brief: Anemia is always due either to blood loss or perversion of cystogenic tissue. Women are more liable to anemic conditions than men because their periodical blood losses in menstruation and childbearing keep their blood in a state of unstable equilibrium in which other causes easily affect it. Besides these natural reasons for the greater frequency of anemia in women there are others. Up to ten years of age boys and girls are brought up in practically the same way; but after this the girl gets much less of light, air, and exercise than the boy. Besides, she is, as a rule, compelled to work harder mentally and with less relief from strain during the years from twelve to eighteen than at any time in life. Just when she should have a surplus of energy to devote to the great developmental changes that are taking place in her physical organism she is employed almost continuously in the work of developing her mental faculties. Exercise is apt to be neglected, diet to be the result of caprice, while serious calls are being made by the physical and intellectual spheres.

This manner of life at an important formative period leaves the hematopoietic system weaker and less resistant and invites anemic conditions, as it also furnishes a basis on which develop various other functional and even organic troubles such as undeveloped uteri, chronic metritis, uterine fungosities, metrorrhagia, small and undeveloped cervices, which are especially liable to tears that later increase the liability to uterine subinvolution, besides a whole series of nervous troubles. In chlorotic conditions what might otherwise seem no more than ordinary menstruation may require curettement, and fungosities will often be found, for normal menstruation in chlorosis is really abnormal.

Particular anemic conditions are often due to some latent hemorrhagic lesion. Ulcer of the stomach runs a latent course with special frequency. Welch and other

pathologists have shown that gastric ulcers or healed remains of them are found very often post-mortem when the history of the patient shows no indication of the presence of an ulcer. In these cases a diet of milk for a few days, with careful watching of the stools, will enable one to decide whether there is any concealed hemorrhage or not. This gives us the most reliable means of deciding as to the presence of a duodenal ulcer which so often runs a latent course.

Anemia, however, may be the result of a chronic colitis, or of an appendicitis, without peritonitis. In a recent case on operation there proved to be a combination of a gall-stone and a patulous appendix, especially liable to irritation. There are are some very interesting cases of anemia connected with chronic appendical conditions, yet without perforation or purulent conditions. In nine such cases a prominent symptom always was nausea.

Gynecological conditions often cause anemia. The various forms of uterine hemorrhage produce it, and concealed hemorrhage may cause an insidious drain. Bleeding may take place into cysts, or into adhesions, or in old fibromata. Vascular growths may develop from old fibromata, cause intense anemia, and even the appearance of the cachexia of malignant disease. Even after examination they are sometimes thought to be cancer and declared to be inoperable. When operation is attempted, however, it is wonderful how well such patients stand large losses of blood during the operation. The blood-making organs have, as it were, grown accustomed to having serious calls made on their functions, and they are prepared to respond. Though anemic looking, before operation such patients react well even after a bloody operation. The anemic state should not be thought a contra-indication to operation. Plenty of liquid should be given during the days of preparation for the operation and subcutaneous injections of normal salt solution just after it will soon restore the circulatory equilibrium disturbed by blood losses. If liquid is allowed to be taken less than two hours before operation it may give rise to troublesome bleeding from small vessels that is very hard to control during the operation. Patients need not be denied the fluid they crave more than this, otherwise post-operative thirst will be excessive and prove a source of restlessness.

The second paper of the evening, entitled

THE PRESENT STATUS OF OUR KNOWLEDGE OF CHLOROSIS

was read by Dr. Thomas A. Southworth (see page 485).

Dr. Manges opened the discussion. He said that the opinions that attribute considerable weight in the etiology of chlorosis to gastro-intestinal disturbance are well founded. In chlorosis there is often present not only hyperacidity but hyperchlorhydria and there is also increased motility. Six or seven years ago Minot thought he had discovered the real reason for chlorosis in gastroptosis, downward displacement of the stomach, which by interference with the blood and nerve-supply to the spleen disturbed the hematopoietic functions. He found in nearly every case that the lower border of the stomach in chlorotic cases extended below the umbilicus, but, as Leo showed, Minot used large quantities of carbonic-acid gas in his demonstrations, and what he really proved was not a gastroptosis in every case, but a supradistensibility of the stomach.

There is no doubt, however, of the frequency of gastro-intestinal disturbances, but this should not keep us from seeing that our patients get enough to eat. In fact, it is always advisable to force the feeding. It can do no harm unless when the supposedly chlorotic condition is really a secondary anemia and due to a latent gastric ulcer with frequent hemorrhages therefrom. Such ulcers are much more frequent than is thought, but with careful and frequent examinations of the patient and her stools they will be surely detected.

Hoffman criticizes Jaccond and other French authorities for citing cases of supposed chlorosis with recurring fever sometimes as high as 103° F. It is probable that in these cases what was really present was a latent tuberculosis. Clifford Allbutt, in his "System of Medicine," in referring to the treatment of chlorosis paraphrases Osler's expression with regard to the use of quinin in malaria: that no case of chlorosis will fail to respond to iron properly administered. There are exceptions, however, to every rule, and certain cases of chlorosis are extremely obstinate even to long-continued iron treatment. It is in these cases that certain auxiliary methods of treatment are useful. Olliver has shown that during rest there is twenty-five per cent. more blood circulation through the muscles; hence, the value of rest in chlorosis when the oxygenation is limited by the lessened oxygen-carrying power of the blood.

Dr. Ewing said that the point of special interest brought out by Dr. Southworth's paper was that it is not easy to diagnose chlorosis from secondary anemia. There is an essential difference between the two inasmuch as in true chlorosis there is a disproportionate decrease of the hemoglobin of the blood, while in secondary anemia corpuscles and hemoglobin are reduced more or less equally.

As to the cause of chlorosis, its much more frequent occurrence in women shows that it is related to certain sexual factors. The practically constant presence of gastro-intestinal trouble shows that this has an etiologic relation to the affection. Further work along these lines will reveal the exact causal elements and so enable us to take chlorosis out of the list of primary or essential anemias.

Dr. Weber said that chlorosis in his experience is at least as common among the lower classes as the upper. When the condition cannot be cured after long and faithful treatment then it will usually be found not to be chlorosis. It will prove to be a secondary anemia or latent tuberculosis. We do not know the cause of chlorosis but we can cure it. The treatment with iron must not be continued merely for one month to six weeks, but must be kept up for three or four months without interruption. Blaud's pills are as good as any other form of iron provided they are not too old. If, when they are crushed (and it is in this way they should always be given), they are green within they are still active but if red

they are inert. When they cause gastric disturbance they should not be given on an empty stomach because of the caustic effect of the potash they contain. Dr. Wylie's suggestion as to the careful frequent examination of the stools in chronic anemia or chlorosis is very important as it will often disclose the reason why a case obstinantly refuses to react to treatment.

DR. SAVAGE said that the President of the Academy had gotten at the root of the matter in asking a gynecologist to open the discussion on chlorosis. The disease is practically always due to some gynecologic factor. An infantile uterus and the menstrual disorders connected with abnormally developed internal genital organs are usually at fault and often require active treatment.

DR. WYLIE, in closing the discussion, said that the hygienic conditions in the upper classes have changed greatly during the last twenty-five years, and that now we see less chlorosis among them than used to exist. He could not see how infantile uterus or undeveloped sexual organs can have anything to do with chlorosis, and as for treatment of such patients by the use of tampons, etc., he would think it justifiable only under very serious conditions As to sexual examinations of such subjects, he considers it scarcely justifiable except under ether.

DR. SOUTHWORTH said that of course he considers chlorosis distinct from secondary anemia though it is hard in certain cases to differentiate it. It is probable that chlorosis is due rather to the prevention of the formation of hemoglobin, and its consequent diminution because of its being used up in metabolic changes rather than to any active destruction of the iron compound going on in the system. Dr. Weber's expression, that the supposed cases of chlorosis that do not yield to treatment will be found not to be chlorosis, he welcomed most cordially. At times true chlorosis requires judicious persistent treatment and yields not quite as rapidly as is hoped, but the disease is, as a rule, very amenable to proper treatment.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Proceedings of the Twenty-fifth Annual Meeting, Held at Chicago, October 3, 4, 5, and 6, 1899.

THE Association met in Handel Hall, and was called to order by DR. HAROLD N. MOYER of Chicago, Chairman of the Committee of Arrangements. REV. H. W. THOMAS invoked divine blessing. Dr. Moyer introduced JUDGE CAVANAUGH of the Superior Court, who, in the absence of Mayor Harrison, delivered an eloquent address on behalf of the city and State. DR. FRANK BILLINGS of Chicago followed with an address of welcome on behalf of the profession of Chicago, after which the president, DR. DUNCAN EVE of Nashville took the chair. The report of the secretary, DR. HENRY E. TULEY of Louisville, was read. It stated among other things that but few deaths had occurred during the year. There are 300 members on the roll at present. Provision has been made for the issuance of a volume of *Transactions* this year. The treasurer's report by DR. DUDLEY S. REYNOLDS of Louisville was also read, which showed a balance in the treasury of $133.96. Both reports were accepted and referred for publication. The committee on credentials, DR. C. S. STANTON, chairman, reported 41 new members.

At this junction, the first vice-president, DR. A. J. OCHSNER of Chicago took the chair, and DR. EVE delivered his presidential address. He took for his subject

MALPRACTICE AND THE DAMAGE SUIT.

Strange as it may appear, he said, no systematic work gives a formal or technical definition of malpractice. He therefore had to quote from a well-known jurist on this subject: "Malpractice is the unskilful or negligent treatment of a patient by a physician or surgeon, or some one undertaking to act as such, resulting in injury to the patient." To constitute malpractice, unskilfulness and injury, or negligence and injury, to the patient must concur. The inquiry is natural, "What is meant by unskilfulness?" It is the want or absence of learning and experience in medical science. How much skill is required? The answer is "ordinary skill." What is ordinary skill? Such skill as is usually possessed by the profession at the time and place, when and where, the patient is treated.

Finally, the speaker urged in a forcible manner that the profession stand as a unit by the innocent victim when unjustly attacked, as if it were a matter of personal concern to each, remembering that when one member suffers the reflex action is felt by all.

SURGICAL SECTION.

DR. JACOB FRANK of Chicago read a paper on

VESICO-RECTAL ANASTOMOSIS.

Experiments have been conducted by him on the implantation of the ureters into the rectum, which justify the conclusion that in every instance there is an ascending infection of the ureters which terminates in the kidney. Since this is an established fact, as verified by both microscopic and macroscopic study of dogs, he has every reason to believe that no better result could be attained in the human being, and from this circumstance alone the implantation of one or both ureters can never become popular. Various operators have devised different methods for the relief of exstrophy of the bladder, but Maydl's is the safest and best because, according to his technic, the ureteral openings are not anatomically interfered with, hence there is a fortification against ascending infection.

The operation consists of anastomosing the bladder to the rectum with the author's decalcified-bone coupler. The technic is as follows: In a male dog the incision is made in the groin, and in a bitch in the median line. Generally, the bladder is found distended, and is emptied by squeezing it gently with the hand, when the urine escapes through the natural channel. The rectum is next picked up and freed of its contents, as in any intestinal operation. The bladder and rectum are then brought forward and placed in position for anastomosis. Two or three interrupted Lembert sutures are now taken about half an inch below the lower ends of the incisions de-

termined upon in the bladder and rectum, care being exercised in selecting them that the coupler, when it is inserted, will not encroach upon the ureteral openings. A longitudinal incision is then made in the bladder large enough for the coupler selected, and a puckering-string applied over and over the cut margin. The rectum is next opened in its long axis, and a puckering-string similarly applied. The suture should be inserted so that the free ends lie uppermost, thus facilitating easy tying. The operator now slips the coupler into the bladder opening, at the same time gently spreading the collars apart, while an assistant makes one knot and draws down on the puckering-string until the rubber tubing is felt; another knot is made and the ligature cut off short. The other half of the coupler is then slipped into the rectal opening and likewise tied and cut off. Several interrupted Lembert sutures are inserted around the borders to make the work more secure. The operation is simple, and can be accomplished in ten or fifteen minutes.

The speaker said that he has not had an opportunity of trying this new method on the human being yet, although it was tried on the cadaver. Of the 15 dogs operated upon, 10 recovered and 5 died. In the first two experiments the technic was imperfect, and a great deal of unnecessary work was done, which undoubtedly contributed largely to the failures. As a rule, the dogs are quite sick for the first few days, and show signs of pain, with rise of temperature. For a week after the operation urine and feces are voided oftener than after this period. Dogs raise the leg as though in the act of urinating, without accomplishing anything, and finally squat down and micturate from the rectum. The animals that have been kept accustom themselves to their condition and urinate periodically. The feces are passed in a liquid form, being softened by the urine. Two of the dogs which were operated on about six months ago are alive and in good health.

Dr. H. O. Walker of Detroit commended the paper for its originality. His experience with ureteral implantation has been limited, but having read the literature on the subject, he was impressed with the practicability of the operation described by the essayist, believing that it will do away with the implantation of the ureter into the rectum.

Dr. Thomas Charles Martin of Cleveland said the essayist was less enthusiastic than he was justified in being, for in a human subject who has exstrophy of the bladder this new operation could be performed without opening the peritoneal cavity.

Dr. John L. Jelks of Memphis, Tenn., then read a paper on

SOME COMPLICATIONS MET WITH BEFORE AND AFTER OPERATIONS FOR HEMORRHOIDS, THEIR CAUSES, PREVENTION, AND TREATMENT.

He reported several instructive cases. He said a surgeon sometimes in dealing with a simple rectal trouble encounters serious disease of the uterus and and its adnexæ. Without the entire relief of both or all conditions the patient will probably feel that little benefit had been given her. Syphilis and gonorrhea may be and often are causes of rectal troubles. When a patient with hemorrhoids has gonorrheal infection the latter becomes a serious complication.

Dr. Joseph M. Mathews of Louisville said that no intelligent surgeon to day uses carbolic acid for the treatment of internal hemorroids. In operating the clamp and cautery or the ligature may be used. The former method of operating is not so liable to be followed by the complications referred to by the essayist. Personally, he would operate on hemorrhoids regardless of complications, such as pregnancy, a displaced uterus, etc.

Dr. George F. Keiper of Lafayette, Ind., then read a paper on

THE MASTOID OPERATION

and reported several cases. He directed attention to the possible injury to the facial nerve in operative work either upon the mastoid or the middle ear. He believes that surgeons have been reckless in this regard and the patients have suffered in consequence. If the facial nerve be wounded or cut through all authorities are agreed that it cannot be regenerated in less time than from twelve months to two years, if at all. Hence the importance of taking due notice of its presence in operative work.

Dr. Gustavus M. Blech of Chicago contributed a paper on

MODERN SURGICAL TREATMENT OF HEMORRHOIDS.

Since a hemorrhoidal tumor is but the result of an inflammatory process, he believes that germ infection must be the main etiologic factor. A *locus minoris resistentiæ* is produced by certain mechanical influences which, however, in the light of modern pathology can be considered only as predisposing causes. In this class belong straining during defecation, obstruction of the portal vessels from liver disease and abdominal tumors, pressure produced by the gravid uterus, pressure on the veins from impacted feces, etc. That germs are primary factors in the production of hemorrhoids the author is satisfied from observations in his practice.

As to the treatment, he said that in the earlier years of his professional career he was in the habit of removing internal and external hemorrhoids with the ecraseur. His objection at present to this method is that the wire of the instrument is very apt to break, leaving the operator in a dilemma, especially when the operation is half completed. Secondly, the cut surface is not accurate, nor can it be regulated. No matter how close the wires are kept down to the base of the pile the ecraseur cuts as it pleases, and not as the surgeon desires it. Thirdly, it frequently happens that after the operation is finished complete separation of the tissues does not take place, and if the screw is tightened some tissue is drawn into the stem, and if continued, the stem is apt to bore itself into the rectal wall. He does not favor the Whitehead operation. His method of operating for internal hemorrhoids differs but little from that of most surgeons. If he has to remove but one tumor of large size he simply throws around its base a temporary ligature, cuts off the entire tumor, and then sews the wound with interrupted sutures in the direction of the axis of the rectum.

BETA-EUCAIN AS AN ANESTHETIC IN EYE, NOSE, AND THROAT WORK.

DR. WILLIAM H. POOLE of Detroit read this paper, which will appear in next week's issue of the MEDICAL NEWS.

INTOLERANT ULCERATION OF THE RECTUM.

This paper was read by DR. STERLING B. TAYLOR of Columbus, Ohio. He reviewed the surgical anatomy of the anal portion of the rectum at considerable length. In the early stages of intolerant ulceration physicians are inclined to discredit the presence of any severe pain, inasmuch as in its incipiency it is merely a rent or tear in the mucous membrane. This is prevented from healing by the lodgment of small particles of fecal matter, which produce irritation and inflammation, and eventually painful ulceration. The extreme pain makes its appearance with the unhealthy granulations. Pain is not the only disagreeable accompaniment, as there is often annoying and sometimes dangerous hemorrhage, especially if the ulcer be located high. The usual seat of the ulcer is at the posterior commissure, and it is here that it is most painful. The anterior commissure is the next favorite seat of the ulcer.

As regards treatment he recommended the method practised by Martin, which he considers simple and effective. General anesthesia is not required, but simply infiltration anesthesia, which is practised by the injection of a few drops of a $\frac{1}{10}$ of 1 per cent. solution of eucain or cocain around the ulcer. A slight incision is then made through the membrane and integument down to, but not through, the sphincter. He then packs with a small piece of iodoform gauze. The bowels should be kept open with some laxative, preferably a mineral water. Apenta water is both pleasant and efficacious. Several cases were reported in which the Martin method of treatment was resorted to. The essayist held that rectal ulcers can be excised under eucain anesthesia without pain.

The address in medicine was delivered by DR. J. A. WITHERSPOON of Nashville, Tenn. He selected for his subject

TYPHOID FEVER.

In this day of progressive medicine, when the whole profession is anxious to elucidate the etiology of disease and its prevention, no field has been so thoroughly gone over, and in none have the trials or hardships been so difficult as in the study of the plain, old-fashioned disease —typhoid fever. While the laboratories with their facilities for studying pathogenic micro-organisms have made wonderful progress, the speaker said that he belongs to that school which believes that while the diagnosis should be made with the assistance of the bacteriologist, more importance should be attached to making it clinically at the bedside. In other words, he is absolutely opposed to doing away with the good, old-fashioned methods of examining the patient and relegating the system of our forefathers to the rear, and making diagnoses purely in the laboratory. Typhoid fever is a specific toxemia, it being produced by the typhotoxins elaborated in the system from the bacillus of Eberth. The speaker then dwelt at length on the differential diagnosis of typhoid fever and what he calls "toxo-enteric fever."

In speaking of the treatment of these diseases he stated that the man has never lived who could formulate prescription number one and formula number two, etc., have them made in Detroit or any other city, and tell him how to treat a case of typhoid fever in the active stage of the disease. He is unalterably opposed to any man putting up prescriptions of this type for him.

OBSTRUCTIVE GROWTHS OF THE PYLORUS.

This was the title of a paper by DR. J. E. ALLABEN of Rockford, Ill. The author reported a successful and interesting case of pylorectomy, after which he drew the following deductions:

1. Cancer is one of the most potent factors in the causation of death, with a tendency to constantly increase in frequency of occurrence.

2. Gastric cancer occurs in about one-fifth of all primary cases.

3. In gastric cancer the pyloric region is affected in sixty per cent. of the cases.

4. The treatment of gastric cancer directed toward a permanent cure is, in the present state of our knowledge, limited wholly to surgical methods.

5. As early total extirpation of malignant growths with the hope of permanent cure is the goal toward which we are constantly striving, and as these growths in gastric cancer occur at the pyloric region in sixty per cent. of the cases, it would seem to follow as a natural conclusion that pylorectomy would be the treatment most frequently prescribed for the cure of this malady.

6. Inasmuch as early diagnosis is the greatest requisite for directing proper radical treatment, the internalist and the surgeon should turn their best efforts in this direction.

7. If the operation of pylorectomy were performed before obstructive symptoms manifest themselves, and before the occurrence of metastasis, the immediate results would be as favorable as in any other abdominal work, and the remote results as good as in extirpation of carcinoma of the breast.

DR. J. L. BOOGHER of St. Louis, Mo., then read a paper, in which he dwelt principally upon the value of prostatic examination in the treatment of associated affections.

WHAT BECOMES OF THE MEDICINALLY TREATED CASES OF APPENDICITIS?

This paper was read by DR. LEWIS SCHOOLER of Des Moines, Iowa. The author predicts that the facts, as disclosed by greater observation and the increasing experience of medical practitioners, will inevitably show that the present position occupied by them is untenable. Patients who are treated by means of medicine only either die under such treatment or later are cured by operation. To the above there should be noted a single exception, namely, those cases in which cure is spontaneous. This occurs by rupture into the bowel, vagina, bladder, or externally. Instances of this method of cure are familiar to all. It is singular, therefore, that in view of

such familiar occurrences medical men do not take the hint that Nature is so persistently urging upon them and comprehend more clearly the fact that removal of the offending cause is the only rational procedure. It is the only one that is approved by Nature, pathology, observation, and science.

Dr. H. C. Wyman of Detroit, Mich., followed with a paper in which he dwelt on the surgical features of appendicitis.

INTESTINAL OBSTRUCTION FROM BILIARY CALCULI.

Dr. J. Wesley Bovée of Washington, D. C., read a paper with this title. He stated that intestinal obstruction from biliary calculi is not very common. Brinton found in 500 cases of intestinal obstruction but 24 cases due to gall-stones, and Leichtenstern found but 41 in 1544 cases of bowel occlusion. In the Manchester Royal Infirmary but 1 case in 50,000 patients treated for all troubles was found. As it is a condition practically limited to late life its rarity is to be expected. The author then dwelt upon the varieties of obstruction, the location, causes, symptoms, and prognosis.

In considering the treatment he stated that Hippocrates and later others recommended the injection of air into the bowel. Tobacco smoke and infusion and different gases have been thus employed. Purgatives are positively harmful. Morphin and belladonna are the two best drugs in this condition. Of course the use of electricity has not been omitted. With medical treatment nearly half the patients recover, but is that a sufficiently large proportion? In 1662 Barbette recommended laparotomy for acute intestinal obstruction, and as abdominal surgery is now practised its use in acute obstruction of the bowel from biliary calculi should give brilliant results. Medicinal treatment may be employed for a short time, and, failing, should be superseded by laparotomy, with a careful exploration of the abdominal and pelvic contents. The seat of obstruction being found, the condition of the patient and the degree of mobility of the stone in the bowel will guide the operator in the subsequent steps. The plan of Tait, of passing a strong needle obliquely through the bowel wall into the stone to break it up, may first be tried, the puncture wound being closed by a Lembert stitch. This failing, the stone should if possible be pushed higher in the bowel and a longitudinal enterotomy performed with extraction of the stone. Gangrenous bowel, perforation, or localized peritonitis, with or without pus, should be treated *secundum artem*. It is always well to look for a second obstruction, as this has caused death in some cases. The deaths following laparotomy for this condition are nearly always from shock or sepsis, a strong argument for early operation. It would not seem improbable that early laparotomy in these cases should have a mortality of less than 10 per cent.

The address in surgery was delivered by Dr. Lewis S. McMurtry of Louisville, Ky. He selected for his subject

THE ESSENTIAL REQUIREMENTS OF A MODERN OPERATIVE PROCEDURE.

During the past fifteen years the province of surgery and its scope have been greatly enlarged. Many diseases and injuries that were formerly treated on the expectant plan and by palliative measures, with little hope of permanent relief or cure, are now cured by judicious surgical intervention. Notwithstanding the increase in hospital facilities in cities and towns many important surgical cases must receive immediate attention at the hands of the family physician from the very nature and urgency of the disease or accident. Such cases are classified as emergencies, and they include many major as well as minor injuries. When a major or minor surgical operation is to be performed certain fundamental principles of asepsis should be observed, and yet it is comparatively exceptional in private homes for minor surgical procedures to be carried out without the presence of pus following the operation.

The speaker said that there are three important steps to be observed: The first is the administration of the anesthetic. This requires skill, which can only be acquired by practice; hence, medical students should receive practical instruction in the administration of anesthetics. The second element of a surgical procedure consists in the control of hemorrhage. In the early days of abdominal surgery it was common to disregard the question of hemorrhage. All those present would remember the days when the drainage-tube was more frequently used than it is now, and that within forty-eight hours after an operation it was customary to pump out considerable quantities of blood as the result of oozing from small vessels that were ignored during the operation. Nowadays, when more attention is given to hemostasis, hemorrhage is lessened on account of attention being directed to the small vessels. A third indication, and one to which the speaker devoted the remainder of his remarks, was the important one of asepsis.

Dr. John D. Kyle of Indianapolis then read a paper in which he discussed the treatment of nasal stenosis due to deflections of the nasal septum, with or without thickening of the convex side. In his opinion the most frequent cause of deflection is trauma. Ulceration of the septum or inflammation within it, as noted in a child suffering with congenital syphilis, and hypertrophy of the turbinates are causative factors. A strumous or uric-acid diathesis may predispose to perichondritis and subsequent deflection.

Dr. Emory Lanphear of St. Louis, Mo., contributed a paper in which he dwelt on the removal of the cervical sympathetic for epilepsy, exophthalmic goiter, and glaucoma. He mentioned the work of Jonnesco and other surgeons along this line saying that this field of surgery is worthy of further study and investigation.

SURGERY OF THE TURBINATED BONES.

The author of this paper was Dr. J. A. Stucky of Lexington, Ky. He did not discuss operative procedures on the turbinated bodies, nor on any of the soft tissues covering the bone, but rather the bone itself. While it is true that the tissues covering the bone are far more frequently found in a pathological condition, and require surgical treatment, it is also true that the bone itself in many in-

stances is at fault. When this is the case the mucous membrane and turbinated bodies may be entirely obliterated by chemical and electric cautery, or scissors, forceps and snare, and the latter condition of the patient be worse than the former, because of the remaining cicatricial tissue and unnatural dryness of the parts. He then called attention to what he considers the best method of removing a part or whole of the bone. The first and most important desideratum in all intranasal operations is to remove only just as much tissue as is absolutely necessary. The crushing or punch forceps, spoke-shave, and snare should only be used inexceptional cases. In removing a part or whole of the middle turbinate, correctly shaped scissors is the only instrument needed. For this purpose he has found none equal to those devised by Dr. C. R. Holmes of Cincinnati, one for each turbinate, right and left. For turbinectomy or turbinotomy of the lower bone, the narrow-bladed scalpel, saw and long straight scissors are needed. An incision through the soft tissues is made along the edge of the bone; this is peeled back with the back of a scalpel and the bone exposed. Should this be too firm to cut with the scissors, a narrow, thin saw is used. In cases where the knife, saw, and scissors cannot be used to complete the operation on account of the size, depth, and conformation of the nasal chambers, the snare is used to complete the removal of the posterior portion. Little or no dressing is needed after the operation, except when the lower turbinate has been entirely removed; then strips of gauze placed smoothly over the wound are allowed to remain twenty-four or thirty-six hours, then carefully removed, after thoroughly softening with fifty per cent. hydrogen dioxid. The subsequent treatment consists of keeping the parts clean until union is complete.

MAMMOTH OVARIAN TUMORS: REPORT OF A CYST WEIGHING 245 POUNDS.

This was the title of a paper read by DR. JAMES B. BULLITT of Louisville. Only growths weighing 100 pounds or more were considered as mammoth tumors. A search through literature has developed reports of twenty-three such cases. Brief summaries of these cases were presented. The largest of these tumors weighed 202 pounds. The speaker added a twenty-fourth case by reporting in detail a case in which operation was performed by Dr. A. M. Cartledge of Louisville in May, 1897, the tumor-sac and contents together weighing 245 pounds. A great many adhesions were encountered, and the operation was prolonged. The woman rallied from the shock and was in good condition at the end of five days, when obstruction of the bowel occurred and she died on the seventh day.

OBSTIPATION AND ITS RADICAL TREATMENT.

DR. THOMAS CHARLES MARTIN of Cleveland, Ohio, read a paper with this title. He said that the rectal valve is an individual anatomic organ in itself, and must now be reckoned with in studying the operations of the integral mechanism of defecation.

When the muscular elements are relaxed and the gut is either greatly dilated or else is even in lesser measure distended, the valve is passively supported by its fibrous band across the channel to resist the hurried or uncontrolled descent of the feces. The presence of the band of fibrous tissue under the free margin of the valve provides a *control* to receive or retain a bolus, or, it may be said, the several valves receive a series of boluses till a sufficient pressure is made to stimulate the complex involuntary mechanism of defecation to further propulsion of the feces, or to a reversed peristalsis. The presence of the feces or the involuntary movements incident to their presence, signals the consciousness to cooperative voluntary expulsory effort, or gives warning of the necessity of voluntary resistance. The valvular arrangement of the rectum provides for the minimum expenditure of energy on the part of the voluntary forces for the reason that the gut's contents are collected on the surface of the unyielding sacrum and steadied there to receive the pressure of the really expulsory voluntary effort. Such an arrangement of the feces further facilitates defecation for the reason that the entire contents of the rectum are not rushed upon the anus at once. If it be the function of the normal rectal valve to beneficiently retard the descent of the feces, it is obviously true that it may be the especial property of the valve, in certain other normal conditions to maliciously obstruct the descent of the feces. The patient is the subject of more or less chronic irregularity of defecation. On some days he makes frequent, partially successful attempts to evacuate the rectum, but may experience an unrequited desire for stool. He acquires the reprehensible physic habit. In time the periods of obstipation are interrupted by diarrhea. There is commonly an ineffectual straining at stool except in the case of fluid feces.

SURGICAL TOLERANCE AND RESULTS.

This paper was read by DR. F. F. BRYAN of Georgetown, Ky. He concludes that tolerance is due (1) to individuality of the subject; (2) to the vital resistance furnished by organs capable of performing their function; (3) by the immediate necessity for the part by the body as a whole, for the aid of the part operated upon, in carrying on life; (4) preventing or limiting shock; (5) limiting hemorrhage; (6) preventing and limiting sepsis and removing the same. Results will depend on (*a*) refusing operation to a hopeless class of patients; (*b*) painstaking care to make the procedure thorough; (*c*) demanding sufficient time for thorough convalescence and adaptation of the patient to the changes that have been wrought.

The following officers were elected for the ensuing year: President, Harold N. Moyer, Chicago; vice-presidents, A. H. Cordier, Kansas City, Mo., and S. P. Collins, Hot Springs, Ark.; secretary, Henry E. Tuley, Louisville, Ky.; treasurer, Dudley S. Reynolds, Louisville, Ky. Place of next meeting, Asheville, North Carolina; time, October 4, 1900.

Another Case of Fractured Spine at Roosevelt Hospital.— A man presenting similar conditions to those of Mr. Duryea has been brought into the hospital. He awaits operation.

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ORIGINAL ARTICLES.

THE ARID REGION OF THE UNITED STATES FOR PULMONARY TUBERCULOSIS.

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I TAKE an opportunity in this paper to answer the great many inquiries that have come to me from physicians and others by giving information through the MEDICAL NEWS direct to physicians relative to this section as a climate for their consumptive patients. As I have no local interest I can probably speak without coloring my statements with Western prejudices.

What actual knowledge I possess of the arid region has been gained by a residence here this summer, last spring, and last winter, during which latter season I was sent through Arizona and New Mexico to inspect Government reservations for the purpose of recommending the selection of a site for a sanatorium for consumptive patients of the Marine Hospital Service. In this connection I wish to call attention to some of the points of interest which impressed me while on this trip, and which may be useful to the physician in sending his consumptive patients out here for the climatic cure of the disease.

First and last, I am firmly convinced that any part of Arizona, Colorado, New Mexico, Mexico, or Western Texas above 2000 feet elevation is as good as another part for the acute case without complications, other things, of course, being equal, such as proper food, etc. I know that a large percentage of such patients sent here rapidly and permanently recover. Let me emphasize that for men in the acute stage one place is as good as another in the sections named so far as altitude is concerned. If the patient has friends, or if it is known that he can obtain all the necessary care at any particular place in the sections above named, let him be sent there. For women, those in an advanced stage and those with a tendency to hemorrhage, care must be exercised to select a site at a medium altitude; patients with stenosis must never go to a high altitude

I believe that for the average patient the climate of El Paso is as good as that of Colorado Springs; Albuquerque as good as Fort Stanton; Tucson and Phœnix as good as Prescott; Chihauhua and Aguas-Calientes as good as the City of Mexico. These places represent the average of each section, and if the physician has a patient in either, and he has all the other absolutely necessary requisites for his comfort, care, proper food, and peace of mind, then one need not worry, for all will have been done that can be done. I have met numbers of patients out here who have tried each place, and, of course, wherever one began to improve that was the place of all others. It is surprising what a vast fund of knowledge relative to climate, rainfall, altitude, and a thousand other unnecessary things these poor unfortunates pick up. I recall a case in Phœnix which I found to be fairly typical of the consumptive sent out to this country. This man, who was just ahead of me at the ticket office, interested me by calling for a ticket to Chicago, and seeing that he was very sick with tuberculosis I naturally made an opportunity to speak to him and inquire why he was returning to Chicago. He explained that thirty-three days before he had landed at Albuquerque, and as he could not notice any difference after a week's stay there, and being told that it was too high, he went on to El Paso, and from there still lower to Tucson. As I was much impressed with that beautiful little city, I asked him why he left Tucson. "Oh," he said, "it was too dry, and they have such awful dust storms." I asked him how many storms they had while he was there, and he said only one, but he knew he should die if he had to live through another. So he had come to Phœnix, and was leaving there because the place was ruined by too much irrigation of the alfalfa fields, and was, therefore, too wet.

Who was responsible for sending this poor, foolish man out here without sensible instructions to aid him to bear up against all the natural drawbacks to be found in a newly settled country? If one expects the climate to do all he will be wofully deceived. If the cases are diagnosticated early and the patient sent here promptly, I believe at least eighty per cent. will recover with out-door life, good food, and attention. Of course many patients will recover with only climate as an aid in spite of all hardships. Truly, though, I have been unable to find many of these.

Do not fail to impress upon your patient that he is to come out here to make it a business to get well. He must understand that the towns are small,

nearly all the hotels poor, and the boarding-houses even worse. There is very little beautiful scenery outside of Colorado. There is much that is dry, brown, dusty, and some that can be called grand though somber. The barrenness of the arid region in Arizona and New Mexico is appalling to the newcomer. The monotony of the ever-present sunshine, the dust, and the high winds make the sick and the well long for a drop of rain; and then add to this poor food and unsatisfactory accommodations, and it requires some courage on the part of the patient to remain here. Then let it be understood that coming here is a serious business, and that the stories of hunting and fishing (the latter especially) and other sports are exaggerated, and generally entirely untrue. Then, too, in all arid regions of the world dust and winds prevail, and I can see no reason to deny that there is a great deal of dust and high winds all over the sections under discussion. Let it be understood that there are many unpleasant features, and the disappointment will not be so great.

The consumptive must not come here believing that it is warm just because there is so much sunshine. At Las Cruces last January it was a little too warm at mid-day for long walks, while in the evening one required a heavy overcoat, and at night heavy blankets. There is a very marked difference between the midday and midnight temperature, and it is absolutely necessary to come prepared for cold weather, and flannels will have to be worn all the time.

I have noticed one thing out here which is very disgusting, and that is that the pillows and bedding have the odor of perspiration so peculiar to the consumptive. Every health-seeker should buy pillows and blankets and carry them wherever he goes if he desires comfort and cleanliness. Every place seems to have the abominable cotton padded "comfortables," which cannot be and never are washed. In a large hotel I found that I had to spend a night under one of these foul things, and I noticed next morning that it had several large spots of dried sputum on it. If one wishes to feel comfortable and be free from disgusting odors let him carry his own pillows and blankets. Besides, if one always has the same covering there is not so much danger of catching cold.

Never believe that the room offered to you has been properly disinfected; also, never believe that a consumptive has not preceded you. I call attention to this for I believe that many persons with mild cases become reinfected here by occupying rooms which were formerly in possession of persons ill in the last stages, and I have heard of a few individuals who had come out with relatives and later contracted the disease, probably by occupying infected rooms.

Physicians should especially direct their patients in the management of the sputum. I never dreamed that man was such a filthy animal until I visited Tucson, El Paso, and the other places where consumptives go by hundreds. I never saw anything more disgusting than the walks in the plaza at El Paso. The efficient president of the Board of Health of that city has made many enemies and brought a great deal of abuse and ridicule upon himself by fighting this dangerous nuisance, and at last he has succeeded in having a law passed forbidding spitting in the streets. I believe he has sufficient temerity to enforce the law. At any rate, it is our duty to aid him by careful instructions to our patients. The patients should be taught not to cough in public places, and to use the sanitary sputum-cup or pocket-bottle.

There has grown up in the Western country a spirit of exaggeration in respect to each locality that, to say the least, borders on the untruthful. Each place has all the virtues, while its nearest neighbor is nothing but a death trap. The expression is often heard that no consumptive was ever known to get well there. Even the doctors join in such silly expressions, and often display a spirit that I am sure is engendered by their own local interest. I am sorry to say this, but I believe it to be true. Especially is this true of their actions toward places of different altitudes from their own. Then, too, wherever one goes every citizen can tell you the average rainfall of his section for years, and he is ever ready to direct your attention to the statistics of other localities that are wetter, but never to those that are dryer, for his desire to furnish you with necessary information never reaches that far.

The places mostly frequented range between 2000 and 7000 feet in altitude, and some are as high as 8000 feet. The greater the altitude the greater the rainfall, and consequently the less dust and more luxurious vegetation; the lower the altitude the greater the barrenness and prevalence of dust storms. Don't let your patients worry about the rainfall, for there is practically none in winter anyway, and in summer what falls is in down-pours which runs away or is rapidly absorbed. The country would be much better if there were more rain.

I want to impress upon physicians the importance of mapping out to their patients the different discouraging problems which they are sure to encounter. I have taken every opportunity to talk with the doctors and consumptives out here for the purpose of ascertaining their trials and hardships.

In a few instances I have found patients who were here under full and intelligent instructions, and who were ready to laugh at the bad food and discomforts, and were making it a business to get well. It does one good to meet with some patients sent out by doctors with sensible directions, even though in nearly every case these doctors have never been here. These are the patients, too, that are doing so well, and in each the diagnosis had been made early.

There has grown up an absurd idea that individuals with destructive valvular lesions cannot live in any altitude above 2000 feet. A little thought will convince one that the average lesion case without stenosis will do even better here than at the level of the sea, especially if compensation has taken place. I have failed to examine one consumptive here who has not referred to his heart and asked if I thought it would stand the altitude. I have examined a few patients who had been directed to leave the high altitude and go lower "on account of their hearts." There was nothing the matter with their hearts except in two instances, and these had irritable hearts from too liberal use of tobacco and coffee. Even the well person cannot smoke and drink tea and coffee with impunity without a feeling of fulness and distress in his chest. This is especially marked at an altitude of 5000 or 6000 feet. I believe much of the dizziness and fulness of the head at high altitudes is due to the use of coffee, tea, or tobacco.

Pulmonary hemorrhage is a question about which I am unable to offer any positive opinion, but one which I have investigated carefully. Physicians residing in the greater altitudes deny that their patients are any more likely to have hemorrhage than at a much lower level. I cannot very well believe that, for the reason that the higher one goes the greater is the relative action of the heart. That is plain, for as we take off the air-pressure we are lowering the "governor," and the heart's action is accelerated and will "race," for there being less air pressure there is necessarily greater relative pressure from the arterial tension. It seems, then, that if the wall of a blood-vessel were already weakened there would be danger for the consumptive to go at once to a high altitude; therefore, if the patient has shown a tendency to bleed and there is a cavity present, I would suggest that he be started in at a medium altitude and gradually ascend.

Tubercular pneumonias involving small portions of the lung are quite common, I am told, and I believe are more often noticed in high altitudes than in lower ones. The newly infected area softens rapidly and a cavity forms at that point.

Consumptives with large cavities rarely recover if they have high temperatures and the cavity is infected with the steptococcus. It is admitted by all that these patients seldom if ever recover in an altitude above 5000 feet. One of our large sanatoriums here refuses to accept such patients, but it is the unexpected that often happens in such cases. I know a woman with a cavity as large as an orange, and one can hear the gurgling in this cavity two feet away, and yet she has gradually improved, and I think will recover. She has been here three years in an altitude of 3800 feet. I also know a man with a cavity the size of a lemon, stuck up against the anterior wall of the thorax like a swallow's nest. He has no other trouble, but still expectorates bacilli from this cavity. His case dates from 1867. Most of his time has been spent in El Paso, but he has also lived in Colorado at a greater altitude. I merely mention these cases to show that some of the patients so afflicted do get well, though they are few.

The physician in the East must be very careful in sending women here. Women often have irregular and scanty menstruation as the first symptom of the disease. Almost surely if they are sent to altitudes above 3500 feet they begin to menstruate freely and often dangerously. There are few women who are not troubled in this way when they first come here. I have heard of some who began to menstruate regularly after going to a high place. I think, however, that this was due to the general improvement of their health. I knew one young girl who usually had a hemorrhage from the lungs at the menstrual period, though she had no sign of uterine flow. She had a large cavity, and has nearly recovered.

Nearly all women are very nervous during the first few months of their residence here. They are highly apprehensive of impending danger, especially during high winds and dust-storms, and one expressed her feelings very clearly by saying that she had an almost overwhelming apprehension of the heart. Men have this feeling also, but not to such an extent. I am in absolutely perfect health, yet even now if I drink strong coffee or tea I have a very disagreeable sensation in my chest. It is nothing more than the heart going too fast for aeration of the blood. This can be stopped in half an hour by walking for that time and then lying down.

Women also have dyspepsias worse than men, and they do not sleep so well. With them, also, constipation is hard to control. High winds cause the air to become electric, and then one is stimulated and is buoyant. The dry air seems to drive away the blues even of the sourest patient. I notice that the consumptive here is more hopeful and happy than in the East.

If the diagnosis is made early, before complications have taken place, I believe that eighty per cent. at least of the patients sent here in that stage will recover. A great many who appear hopelessly sick at the East will also recover or the disease will be arrested. In spite of the dust people with laryngitis improve wonderfully in a short time. While at Las Cruces last December I played ball with two young men, one of whom had been brought to that place on a stretcher fourteen months before. While at college he had eleven hemorrhages, when he contracted the disease. He promised to allow me to examine him, but I had to leave and never saw him again. He said that so far as he could tell he was perfectly well. The other case was one of twelve months' standing, and the man thought himself well, though I easily found the infected area in both apices. Near Fort Stanton is a young man following a flock of sheep. He herds them night and day, sleeping on the ground. To see him now no one would believe that a few months ago he could scarcely walk, and that only will power kept him alive. Another patient came in June and camped near the Reservation. He had a large cavity and mixed infection. He could not walk. Now he has very little fever, and rides and walks a great deal. It remains to be seen if this patient with mixed infection will eventually recover at an altitude of 6126 feet. These are only examples of nearly one hundred cases that I have seen incidentally, and some patients who have been here a number of years show no signs of the disease, and I have to take their histories for the correctness of the diagnosis. One can hardly believe that they were tuberculous and had recovered.

In the case of extensive dry pleuritic adhesions of both lungs, as a complication, I am told the patients invariably die when at an altitude above 2000 feet. All women should start in at an altitude of about 3500 feet, and ascend if they have no complications. Patients with a tendency to hemorrhage should not go to high altitudes. Persons with valvular lesions as a complication should be started in at a low altitude because very little exertion will set the heart racing and badly frighten them in spite of the explanation that there is no danger. Persons with stenosis should never be sent above sea-level. Physicians are advised to keep their bed ridden patients at home to die in peace. This country is bad enough to live in, and it certainly is hard to die here. It should not be forgotten that the trip is hard for a well person; for the sick it is a hardship. Individuals with one side badly affected and large cavities should submit to the Murphy operation before being sent out. If such are sent to places as low as Phœnix and Tucson there is a good chance for them to recover. If the patient has big cavities on both sides he must not go above the level of San Antonio, Tucson, or Phœnix, and even at these places the chances are against him.

Colorado is so well known I shall not attempt to name any place in that State. Arizona, New Mexico, and Western Texas are the parts of the arid region that I think are most desirable. As I said before, one place is as good as another in this region as far as the climate itself is concerned. For those in the acute stage the climate alone will cure most of them, and therefore it makes very little difference where they go. For those in whom the disease has advanced sufficiently to give rise to high fevers and dyspepsia, and who are easily chilled by the least exposure to cold it is necessary that the very best cooked food and attention be given. It is this class of patients which has aroused my solicitude especially. I have seen a number of them die and know that a great many die that should have been saved. A large percentage of these unfortunates obtain the glaring advertisements of some place with a Spanish or Indian name and are induced to try its extolled virtues. Their disappointment is woful. The food and lack of attention would make the well sick. Patients should be kept from the small Western town and from the ranch There is not one ranch in five hundred where one can obtain a palatable meal. With thousands of ranch cows about one rarely sees milk or butter at one of these places.

This arid region, which includes a large section of Mexico, has been pushed up, as it were, from 2000 to 8000 feet above sea-level. The climate has been changed and modified to such an extent that it is entirely different from that which one would notice merely by going up a high mountain. With a temperature of more than 90° F. in the shade one does not perceptibly perspire. The air is full of electricity. If I had the choice I should prefer to have consumptive patients here in summer rather than in winter. I believe it a great mistake to send patients here in winter and allow them to return East to spend a miserably hot summer, losing all they have gained. The consumptive will flourish in dry cold and succumb to moist heat. I have yet to see more delightful weather than that of last spring and summer, during which time I was at El Pasco, in the Tularosa Valley, and here at Stanton in the Sierra Blanca region. In the Rio Grande and Tularosa valleys the sun is blazing hot, and yet there is nearly always a breeze and one can find comfort in the shade.

Here at Stanton the spring, summer, and so much of the fall as has passed have been absolutely perfect. No one could find anything to add to it. The

record for more than twenty years shows mild winters with high winds in February, March and April.

Let me again advise against sending patients to small towns. El Paso, Phœnix, Albuquerque and Tucson are bad enough. Even in these towns with few exceptions there are no first-class, up-to-date hotels. In El Paso with its enormous transient travel and its large amount of business there is only one medium class house worthy the name of hotel; and there is not one good restaurant. Albuquerque has recently lost its fine hotel by fire, and now there is no place for the wealthy consumptive to go to in that city, for no one would tolerate the hotel accommodations there if he could help it. Phœnix has a very nice hotel in the Adams House. At Eddy there is a fair hotel, but I am told that the dining service is miserable. At Tucson there was a nice little hotel, but I hear that the proprietor has moved to El Paso. It is to be hoped that El Paso will gain by this change.

Las Vegas Hot Springs is probably the best place for the patient with means. There is a large sanatorium there, run on the hotel and cottage plan. A consumptive can go there and spend the entire year in comfort. The Catholic will find at El Paso the Hotel Dieu, a modern, up-to-date hospital and sanatorium of which he can well be proud. Ground has just been broken at Roswell for a sanatorium and it promises to be a great success. Roswell is a coming town. At Alamogordo I found the most comfortable hotel in Arizona or New Mexico. It is a small house, but clean, and the dining service is excellent.

It thus practically resolves itself to the necessity of the consumptive procuring board with private families, keeping house, or having miserable rooms with miserable meals at miserable restaurants. I want to make one exception in regard to restaurants, and that is, wherever there is a Harvey eating house one will get first-class meals. Harvey makes a business of superintending the meal service on the Santa Fe system, and his meals are excellent.

In El Paso I know of only one good boarding-house. In Albuquerque there are said to be several. Patients reaching any town had better go to a European-plan hotel and get meals outside. They can then inquire for and find boarding-places. Examine the railroad cards and if any place has a Harvey house, go there. A woman can always feel safe in going to a Harvey house.

Throughout Arizona and New Mexico one will find society of the best sort. The pulpits are often filled with educated and refined ministers here for their health. It is the same with all the professions, and one need not fear that he will not find cultured and refined people, for they are everywhere though they are sick. The poor man must come prepared for exorbitant charges. From the start he had better have his own home or be sure of his friends. All kinds of attractions are held out to settlers, but one must bear in mind that a farm cannot be commenced here for a small sum as water alone is a big item of expense. There is not a drop of water near irrigable land in either Territory not already pre-empted. The digging of wells is usually a costly experiment. The well-to-do can always make a home with sufficient comforts.

DIRECTORY.

Las Vegas, N. M. Hotels fairly good. Boarding. Patients can remain winter and summer. Altitude, 6418 feet.

Las Vegas Hot Springs, N. M. "The Montezuma;" good attention of all kinds. Patient can rent a cottage and have meals in the main dining-room. Hot baths. Patient can remain all the year. Advanced cases not received. Altitude, 6709 feet.

Santa Fé, N. M. Hotels only fair. Boarding. Greater number of clear days than any place in New Mexico. Summers perfect. Patients can remain all year. Altitude, 7047 feet.

Albuquerque, N. M. Hotel accommodations poor (fine hotel just destroyed by fire) One good restaurant where ladies can go. Boarding. Fine drives. Patients can remain all year. Has best altitude, 5000 feet.

Las Cruces, N. M. Very poor hotel. At the "Alamada," three miles out of town, one will find good meals, though other accommodations are very poor. Part of the year very hot. Winter perfect. Must make arrangements by correspondence before going there. Altitude, 3797 feet.

El Paso, Texas. Several European-plan hotels (others being built). One good boarding-house. Good driving. Fine business town. Good place for the workingman. Summers very hot. Winters perfect. Altitude, 3720 feet.

Deming, N. M. Fair hotel, but good meals. Beautiful country. Small town. Can remain all year. Altitude, 4327 feet.

Hudson Hot Springs, N. M. (near Silver City). Sanatorium. Said to give good care and attention. Can remain all year. Altitude about 5000 feet.

Tucson, Ariz. Beautiful old Mexican town. Beautiful drives. Fair hotels. Boarding. Hot in summer. Delightfully warm in winter. Patients should leave there in summer. Altitude, 2392 feet.

Phœnix, Ariz. Beautiful city. First-class hotel, "Adams House." Boarding. Nicely kept streets

and beautiful drives. Patients should leave in summer. Altitude about the same as that of Tucson.

Prescott, Ariz. Hotels poor. Summers delightful. Altitude about 5000 feet.

Flagstaff, Ariz. Fairly good hotel. Small town. Beautiful country adjacent. Grand Cañon of the Rio Grande sixty miles away, and the San Francisco Mountains nearby with an altitude of 12,000 feet. Fine summer excursions. Altitude of Flagstaff 6862 feet.

Alamogordo, N. M. Hotel first class, though small. Small town, eighty-six miles from El Paso. Hot summer. Stopping place en route to Cloudcroft. Altitude about 4400 feet.

Cloudcroft, N. M. Fourteen miles from Alamogordo in the Sacramento Mountains. Six thousand feet elevation. Used as a resort in summer by people from Western Texas. Said to furnish first-class meals. Summer resort only. Ride on mountain railroad very fine.

Eddy, N. M. Fair hotel. Small town. Altitude about 4000 feet.

Roswell, N. M. Poor hotels. Boarding. Will have a fine sanatorium for consumptives, to be opened this winter. Hot summers; delightful winters. Beautiful drives. Surrounding country good for the poor man to get a start. Altitude about 4000 feet.

STEATOSIS OF THE LIVER AND COAGULATION NECROSIS; A FURTHER CONTRIBUTION TO THE YELLOW-FEVER DISCUSSION.

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Drs. Reed and Carroll, in their recent article in answer to Professor Sanarelli, stated that a complete report on the comparative experimental pathology of bacillus icteroides and bacillus cholerae suis would be formally presented by them in the near future to the Surgeon-General and would without delay be made public by him. While waiting the completion of their work and its report I have felt that there are certain points in the present controversy with regard to the specific cause of yellow fever that deserve further elucidation. These points have special reference to the steatosis or fatty degeneration of the liver that has been described as specific to yellow fever.

Drs. Reed and Carroll (Medical News, September 9, 1899) say: "Sanarelli speaks as if yellow fever were the only condition in which fat is found in the liver cells. It is hardly necessary to remark that it may be present in considerable quantities in the livers of comparatively healthy individuals. Steatosis may mean little or much; it does not necessarily imply degeneration." Later they say: "Sanarelli displays profound ignorance of the pathology of coagulation necrosis," and finally in their discussion of the pathological lesions found by them in the liver of a soldier who had died from yellow fever they failed to find "the acute steatosis upon which Sanarelli lays so much stress" and leave it to be concluded that it is not pathognomonic of the disease. While waiting for Sanarelli's own answer to these imputations I think it only due to his American readers to point out a rather obvious answer to them and at the same time to give certain details of some work on the subject of fatty degeneration during which I had the privilege of being present in his laboratory at Montevideo.

I must say that Drs. Reed and Carroll's declaration seems to assume on their part no very extensive acquaintance with Sanarelli's work during these last few years. For instance, as regards the first assertion, that Sanarelli thinks that fat is produced in liver-cells only in yellow fever, he published an article in the *Centralblatt für Bakteriologie*, No. 10, page 382, in which he tells of observations made on fatty degeneration as produced by various infectious diseases. It is preposterous to assume his ignorance of a subject like this since, of course, it is well known that steatosis may occur from a large number of causes and that it may be entirely physiologic and not due at all to pathologic factors. It occurs in animals as well as in men without positive disease as the well-known artificially produced fatty goose livers (*foie gras*) of the table testify. Besides other lesions fatty degenerations of liver cells are produced by practically all of the infectious fevers. Hemorrhagic smallpox causes a distinct hepatic steatosis, typhoid fever and cholera are associated with a certain amount of it, and the diphtheria toxin is noted for having an intense steatogenic power.[1] Above and beyond all these, however, is the specific steatogenic power of the bacillus icteroides, its power of producing an intense fatty degeneration of the liver cells of its victims. This degeneration is so widespread and so acutely produced by the bacillus icteroides that it can only be compared with three other processes, namely, the fatty degeneration of the liver found after actual yellow fever, that noted after

[1] Besides bacterial toxins there are, of course, other poisons that produce fatty degeneration. Alcohol and lead are the most common and best known. In my forensic practice in Montevideo I once had in a boy a fatal case of poisoning with anilin oil in which icterus occurred during life and I found fatty degeneration of the liver post-mortem. To make sure for medico-legal purposes that these two phenomena, the icterus and the fatty degeneration of the liver, were really due to the anilin oil we made a series of experimental observations on dogs, using 30 to 40 centigrams of anilin oil to the kilogram of animal. Four out of five died, presenting icterus, and all five after death showed exquisite fatty degeneration of the liver.

phosphorus poison and that produced by the venom of crotalus, rattlesnake poison.

Recognizing the immense value this special steatogenic quality might have in demonstrating the etiological relation of the bacillus icteroides to yellow fever, Sanarelli in his laboratory at Montevideo instituted a series of observations to determine the amount of fatty substance that could be extracted from the livers of dogs immediately after their death from various diseases. It was at these observations that I had the privilege to assist. It was found that in any given disease the extension of the fatty degeneration through the liver substance is never constant. This is true even for the three pathological processes mentioned above which are especially prolific in the production of fatty degeneration of the liver. The hepatic cells of certain animals, even of the same species, are very differently sensitive or resistant to toxins from those of others. The age, size, and especially the breed of the dogs employed in the observation we found made a great difference in the results obtained when the animals were inoculated with the bacillus icteroides. The purer the breed of dog employed the more steatosis was produced.

Havelburg, in his report from Rio Janeiro ("Public Health Reports," November, 1898), pointed out that "the more or less rapid production of the different phases of the disease (yellow fever) is a question of the size of the dose of culture or of toxin." In conformity with this principle we found at Montevideo that the relation between the amount of hepatic steatosis produced and the amount of culture of bacillus icteroides administered was a constant one. It is possible to obtain with repeated doses an even more intense fatty degeneration of the liver than can be produced by phosphorus poisoning. It can be seen not only with the microscope but with the naked eye. The liver presents the orange-yellow color so characteristic of the livers in the cadavers of yellow-fever victims. At times in very acute cases, just as happens in phosphorus poisoning at times also, the intense congestion present obscures this yellow color, but very slight pressure causes the blood to recede and discloses the intense fatty degeneration present.

I await with some impatience the account of the manner in which Drs. Reed and Carroll will determine the comparative steatogenic power of the hog-cholera bacillus and the bacillus icteroides. The method employed by Professor Sanarelli was a very exact one. It consisted in an accurate determination by means of chemical analysis of the amount of fatty substance that could be extracted from the livers of dogs. The quantity of fat in the liver of the healthy dog gave an average dry residue of 6.54 grams per 100. A large series of analyses of this organ after various infections gave the following results: In the liver of dogs dying from cholera the average goes up to 9.44 grams per 100. After death from infection by the colon bacillus it amounts to 10.60 grams per 100; after infection with bacillus pyocyaneus to 11.22 grams per 100; after infection with diphtheria to 14.65 grams per 100; after infection with bacillus icteroides to 22.69 grams per 100. The highest average obtained in any single observation in our laboratory was 32.72 grams of dry residue to 100 grams of the fatty substance, and this was obtained from an animal dead after infection with bacillus icteroides. A very complete confirmation of Sanarelli's results in this matter is furnished by the recent "Report of the Medical Officers Detailed to Investigate the Cause of Yellow Fever." Drs. Wasdin and Geddings report that they obtained from twenty-seven to fifty-three per cent. of fatty matter in the livers of animals that had died from infection with the bacillus icteroides.

Decoreis, in yellow-fever cadavers, in Cuba, noted 22.29 grams per 100 of dry residue from the fat contents of the livers.[1] Canto, at Rio Janeiro and San Paulo, in Brazil, noted 23 per 100[2]. Figueyra, working in Lisbon, noted 31.30 grams per 100.[3] To these may be added the authority of Lacerda, who is quoted by Drs. Reed and Carroll. He says in the *Revista Medica do Brasil*, 29, page 256, 1898: "We do not know another toxic substance of any kind whose steatogenic power is at all comparable to the amaryllic toxin in intensity or rapidity. Even arsenic and phosphorus do not compare with it in their power of producing fatty degeneration of the liver and other internal viscera. Only one poison seems to be in the same class with yellow-fever toxin in this, and that is crotalus toxin—the venom of the rattlesnake. The distinction between these two is that amaryllic toxin is pyretogenic as well as steatogenic, while crotalus poison is only the latter." Dr. Lacerda, in *Archives de Medicine Experimentale* for the present year, speaking of the rapidity with which the toxin of the bacillus icteroides produces steatosis, says that he has seen fatty degeneration already begun only eight hours after inoculation. Mendoza, in the *Revista Medica de San Paulo*, No. 5, 1898, says that in dogs the bacillus icteroides produces lesions identical with those produced in man by yellow fever. He calls attention especially to the fatty degeneration of the liver, the hemorrhagic gastro-enteritis, the albuminuria, and the secondary infections.

[1] "Traite de Fievres," Paris, 1893.
[2] "Febre amarilla," A. Gordinko, 1897.
[3] *Gazeta Medica do Lisboa.*

In the *Settimana Medica*, No. 19, p. 225, 1899, Foa says: "In the liver of dogs dying from yellow fever experimentally produced by the injection of the bacillus icteroides I found exactly the same lesions as those which I have frequently studied in yellow-fever cadavers. By means of injections of the bacillus icteroides directly into the liver parenchyma I have obtained hepatic steatosis resembling in every particular that of human yellow fever, and accompanied like it by jaundice of the tissues." Observations of the same kind might be quoted from Della Rovere, Belfanti, Bruschettini, and Cesaris Demel, men whose reputations in Italy as impartial observers are very well recognized, but I do not wish to weary the reader.

The specific steatogenic power of the bacillus icteroides has, I think, been amply established by the observations quoted in detail.

Now as to the question of Sanarelli's ignorance in the matter of coagulation necrosis. Some of his most delicate work has been done on just this subject. This from his observations on the livers of guinea-pigs is a good example: "In guinea-pigs the hepatic cell is very resistant to the toxin of the bacillus icteroides. At most this poison produces a granular turbidity of the protoplasm with certain phenomena that point to cellular necrosis, but it rarely gives rise to any characteristic process of fatty degeneration." Then in connection with the livers of rabbits he makes this observation: "The cellular stroma is often compressed and reduced in size. In certain portions the protoplasm of the cell is rendered not granular but vacuolar, and seems actually reduced in amount. In the perilobular tissue there is always infiltration to be observed and at times this is considerable. In rabbit livers there is just the beginning of steatosis but it is very limited in amount." In the livers of dogs he notes the following appearances: "The hepatic columns between the capillaries are reduced to small, narrow bands made up of cells that are completely altered in form and practically all reduced in size. They are cloudy in appearance, granular, and in some parts completely destroyed, converted into globular masses of material not to be recognized as cells." (*Annales de l'Institut Pasteur*, 1897. *Annals of the University of Montevideo*, vi year, vol. xi, pp. 76, 86–100.)

It is evident from these quotations that to speak of Sanarelli's ignorance of coagulation necrosis and its relations to steatosis is entirely uncalled for and gratuitous. It is no wonder that he read with surprise Drs. Reed and Carroll's declaration that he had not made any mention of these most striking lesions when they seemed to refer in their first article to spots of necrosis easily visible to the naked eye.

There are certain necrotic lesions of the liver that are very similar in a number of infectious diseases. Hanot noted in the livers of patients dead from practically all of the infectious fevers, whitish spots with identical histological characters.[1] He did not, however, because of this announce that there was reason to think of an identity of virus in the various infectious diseases, yet it would seem to be on some such insecure ground as this that Drs. Reed and Carroll would argue the identity of the bacillus icteroides and the bacillus choleræ suis, because forsooth both produce cellular necrosis of the liver.

There would seem to be a tendency here on the part of Drs. Reed and Carroll to confound necrosis in general with coagulation necrosis, two things that I need not say are utterly distinct. All the pathological anatomists are not agreed as to what coagulation necrosis is in essence or as to its cause, but all make it a thing apart from necrosis. It would seem that microbic toxins sometimes act upon the cell *d'emblée*, *i.e.*, without producing gradual destructive effects. The cell is fixed rather than killed and presents a vitreous substance that often does not take the ordinary stain but requires the double stain, hematoxylon and eosin. A single lesion such as cellular necrosis ought certainly not be made the basis for declaring any two diseases identical, especially when they are differentiated by so many other points as are the affections produced by the hog-cholera bacillus and the bacillus icteroides. In their first article this production of liver necrosis was practically the only reason advanced by Reed and Carroll for thinking the two bacilli the same, though they now admit (MEDICAL NEWS, September 9, 1899) that a similar lesion occurs in many infections. What should be taken into consideration are the many points of distinction in the pathologic effects produced by the two forms of bacilli.

Welch and Clement even with attenuated cultures of the hog-cholera bacillus when injected intravenously always obtained the lesions produced by the virulent form, namely, hemorrhages, necrosis and diphtheritis. According to them similar observations were made by Theobald Smith.[2] Silberschmidt noted miliary abscesses four or five times in the livers and spleen of rabbits. At the point of inoculation abscesses occurred and sometimes they were large. After injection into the ear there was often edema of the auricle and swelling of the tissues over the jaws and at the back of the neck and this was often followed by deep and extensive abscesses in these regions. Often there occurred purulent pleurisy on the side on which the inoculation was

[1] *Comptes rendus de la Societe de Biologie*, 1893.
[2] Welch and Clement, "Hog Cholera and Swine Plague," p. 13, 1894.

practised and more or less frequent abscesses at the base of the lungs with concurrent hepatization. The abscesses constantly gave pure cultures of the hog-cholera bacillus.[1]

In the hundreds of rabbits that have been sacrificed during the experimental observations on the bacillus icteroides neither Sanarelli himself nor any of the other observers, and their name is legion, has ever called attention to such hemorrhages, necrosis and diphtheritis of the intestine as occurs after inoculation with hog cholera. A subacute infection with the bacillus icteroides, though this form of infection is not infrequent in experiments with the hog cholera bacillus, was observed only by Foa and then only under the influence of antiamaryllic serum.

Pulmonary and hepatic abscesses and purulent pleurisy are completely unknown in rabbits infected with the bacillus icteroides and I have yet to hear of a single case in which Sanarelli's bacillus was ever isolated from the purulent contents of a pericardial sac. These lesion that I have mentioned are surely at least as important as the simple foci of necrosis noted by Reed and Carroll. As to the diphtheritic lesions of the intestines, I think that my citation of a case in the MEDICAL NEWS for September 23, 1899, in which such lesions occurred in the intestines of hogs after the ingestion of bacillus icteroides, will serve to show how dubiously significant they may be.

It must be borne in mind that the steatosis and cellular necrosis said to occur in the liver of dogs after inoculation with the bacillus icteroides develop very rapidly. An observation made on dogs inoculated four or five months before their death, such as is reported by Drs. Reed and Carroll, has no significance for the question of acute steatosis. In such a length of time the streptococcus of erysipelas may produce a steatosis as profound as that of the hog cholera bacillus. It is the acuteness of the fatty degenerative process, it must be remembered, that distinguishes yellow fever and phosphorus poisoning from other agents that produce hepatic steatosis. Moreover, it must not be forgotten that when the animal survives for some time, the degenerated cell revives and with almost as much rapidity as the degeneration took place,[2] so that it is not impossible that in the course of the inoculations of a dog extending over four to five months in Drs. Reed and Carroll's observations, there was a series of degenerations and regenerations in the hepatic cells. Drs. Reed and Carroll do not say what method they employed to estimate the fat in the livers of the animals they had under observation. For comparative purposes as to the effect of the bacillus icteroides and the bacillus of hog cholera, it certainly is not enough to make a microscopic examination only, and we are told nothing of the chemical analysis which should have been employed in order to make the estimation of the fatty material present exact.

The assumption that Sanarelli and his school know nothing of fatty degeneration and of cellular necrosis that marked the *tour de force* of Drs. Reed and Carroll's argument would really be amusing were the subject not so serious. Surely they will give us credit for a certain minimal knowledge of these subjects, in which case it would have been impossible for us to have fallen into the error they point out.

[1] *Annales de l'Institut Pasteur*, p. 65, 1895.
[2] Jaccoud, "Pathologie Interne."

BETA-EUCAIN AS AN ANESTHETIC IN EYE NOSE, AND THROAT WORK.[1]

BY WILLIAM H. POOLE, M.D.,
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EVER since the anesthetic action of cocain was discovered and its use made practicable by Niemann and Koller there has been a hope in the hearts of many practitioners that some other equally efficient but less toxic drug would be evolved from the chemist's laboratory. As the dangerous condition frequently following the use of cocain, even in the hands of the most careful operators, gave birth to the unexpressed as well as oft-reiterated desire for some more safe anesthetic, so, too, it spurred on the chemist in his laboratory researches until success has seemingly crowned his latest efforts, and we have the product beta-eucain as the result. Exception may be taken to the foregoing on behalf of the ophthalmologist pure and simple, who has come to regard it as an axiom that cocain meets every requirement that could reasonably be expected of a local anesthetic; but we must not lose sight of the fact that the great majority of ophthalmologists include nose and throat diseases in their practice, and while they may have no fault to find with cocain as an anesthetic in the ophthalmological part of their operative work, yet this does not hold good in their rhinological and laryngological cases. I presume we each and all have had patients who, after a minimum dose of cocain was applied to the nose or throat, grew dizzy, faint, had a pallid countenance, with disturbed circulation, spasmodic action of the heart, great dyspnea, and final collapse into unconsciousness. I have at different times had such an experience following the local application of the drug, not only in the nose and throat, but in an eye case which will be referred to later on. Hence arises the interest I feel in this newer product which

[1] Read before the Surgical Section of the Mississippi Valley Medical Association at Chicago, Ill., October 6, 1899.

in my experience has proven equally efficacious as an anesthetic without producing the toxic effects above enumerated.

There are two entirely distinct products sold as eucain, the distinction being made by naming one alpha eucain, the other beta-eucain. Beta-eucain is the one I am more particularly interested in at this time, though clinically there is no distinction necessary excepting that of irritation to the eye. It was on account of this irritation in the use of eucain A that eucain B was brought out and made available, as in the latter the irritant effects are minimal. Eucain B is a stable chemical compound which is not decomposed by heating even up to the boiling point. This is a decided advantage over cocain solutions which do not keep well and are decomposed by heat, whereas the eucain solution can always be speedily made aseptic by boiling without in any way destroying the activity of the drug.

There are three conditions that must be fulfilled before a drug can lay claim to being an ideal anesthetic, *viz.*, the reduction of pain to a minimum, increasing the facilities of the operator to the maximum, and producing no unpleasant after-effects. As cofactors of these requirements I must consider the method of application, temperament of the patient, and skill of the operator. First, as to the reduction of pain or producing anesthesia, I have found from my experiments, both clinical and in private practice, that we possess in eucain an anesthetic by the aid of which we can render the mucous membrane so insensible that local operations may be performed without suffering on the part of the patient. The mode of applying the solution governs to a great extent the degree of anesthesia, and consequent comfort to both patient and operator. Instillation is the preferable method in eye and ear cases, while in those of nose and throat better results will be obtained from contact with a saturated pledget of absorbent cotton. Spraying the nasal cavity, be it ever so skilfully done, will not prove as satisfactory as a properly shaped and carefully applied cotton pledget. By properly shaped I mean spindle shaped, which is easily made by lightly twisting the cotton around the end of a probe, saturating it in beta-eucain solution, and placing it in position so that it lies parallel with the turbinate. The probe is then withdrawn, leaving the cotton *in situ*. In throat work swabbing with cotton, holding the cotton in contact with the part, and renewing the application produces satisfactory anesthesia.

The strength of the solution necessary to secure anesthesia depends largely upon what is to be done and the region affected. In ophthalmologic cases a two-per-cent. solution produces satisfactory anesthesia fully equal to that obtained by a four-per-cent. cocain solution. In addition to its use preparatory to operative procedure, it serves an excellent purpose in overcoming the irritability arising from applications of silver and copper to the conjunctivæ, the removal of foreign bodies, and many other conditions. This two-per-cent. solution is admirably serviceable also in all cases in which a thorough examination of the nares, pharynx, or larynx is necessary, where, through irritability or hypersensitiveness of the parts, such an examination would otherwise prove well-nigh impossible. In those patients who are intolerant of laryngoscopy as well as in some in whom irritating applications have to be made to the larynx, this solution is of great service In operations in the nasal chambers the nasopharynx, the pharynx, and larynx a solution of from four to ten per cent. is required to secure satisfactory results.

The second condition necessary to an ideal anesthetic is that it shall aid the operator to the fullest possible extent. In discussing this point I shall necessarily have to consider (*a*) the temperament of the patient, (*b*) the rapidity, intensity, and extent of the anesthesia, and (*c*) the systemic as well as local action of the drug.

(*a*) Regarding the temperament of the patient, we have each of us undoubtedly met with patients of that peculiar mental and physical combination of make up that they involuntarily were a great help or a great hindrance to the operator.

(*b*) As to the rapidity, intensity, and duration of the anesthesia, I have found that there is a great difference in individuals as to the time required to secure satisfactory anesthesia; but in the majority of cases the effect of the drug has been noticeable in two or three minutes, anesthesia being obtained in from five to ten minutes after the application of the solution was begun and lasting from eighteen to twenty minutes.

(*c*) In regard to the systemic action of the drug, I have yet to see the first case in which it has produced any heart depression or other objectionable symptoms indicating systemic poisoning.

Locally the action of the drug differs essentially from that of cocain in nearly every respect, except that of producing anesthesia. In this it is fully as efficient and in some instances more so. While it is obvious that an exact comparison of the action of the two drugs is a matter of some difficulty, owing to the idiosyncrasy and varied sensitiveness to suffering on the part of different patients, yet there are certain local effects produced which are decidedly characteristic of each. In my experiments with eucain B. I made use of a two-per-cent. distilled water solution

in three different classes of eyes: those practically normal, those that were inflamed, and in operative cases. Instillation of an equal strength solution of the two drugs in each eye was made, with the result that some patients complained of more smarting from the cocain than from the eucain, while others claimed the reverse. Many of them experienced no discomfort at all.

As to how the ischemia of cocain, and the lack of it or possibly its opposite, the slight hyperemia of eucain is produced is not within our province at this time to determine, but it is certain that the instillation of eucain B. solution is not followed by that marked whiteness, as if frozen, and hypotonicity of the eye produced by cocain, neither is the eyeball projected forward with widely dilated pupil. In contrast with this the eucainized eye presents a normal appearance. In about half of my cases only was there a moderate degree of vascular dilatation without forward protrusion of the eyeball and without mydriasis, which renders it valuable in operations upon glaucomatous eyes in which the cocain mydriasis is inconvenient. One great advantage in favor of eucain is that the accommodation is not affected and the pupil remains unchanged, promptly reacting to light stimulus and convergence. Perfect insensibility of the cornea and conjunctiva is obtained in from two to three minutes, and no cloudiness of the cornea has been observed nor could I observe in the eucainized eye those wavy, broad lines in the cornea so frequently seen in the cocainized eye.

I have made use of beta eucain in treating quite a few eyes that were in an inflamed condition, such as cases of foreign bodies in the cornea, keratitis, corneal ulcerations, episcleritis, and iritis. In these several conditions the anesthesia was fully as satisfactory as under cocain, except, possibly, in the case of iritis, in which there is more congestion of the anterior vessels. Here the patients experience greater relief from the cocain, owing to its vasoconstrictor action.

I have made use of the drug in the following instances in operating on the eye, ear, nose, and throat, obtaining fully as satisfactory obtunding of the sensibilities as could be desired, or as was obtained under cocain, and in two cases which I will specially mention the use of cocain was debarred on account of the alarming symptoms which set in under its use, the patient subsequently being operated on under eucain without the slightest untoward symptom arising. *Eye.*—Chalazion extirpation, 5 cases; entropion, 1; trachoma, 2; opening the lacrimal duct, 3; pterygium, 1. *Ear.*—Furuncle of the auditory canal, 2; paracentesis of drum membrane, 1. *Nose.*—Hypertrophied turbinates, galvanocautery operation, 7; nasal polypi, 3; nasal spur, 2; foreign body, 1. *Throat.*—Abscission of uvula, 2; excission of tonsils, 3. In the eye cases a 2-per-cent. solution was made use of, while in the other cases a 4 or 8 per-cent. was deemed advisable.

The third condition or attribute that our ideal anesthetic should possess is that it should give rise to no unpleasant or untoward after effects. In my use of eucain this has been the case. Following the anesthesia I have found the disturbances of sensation much less lasting, less defined, and less unpleasant than when cocain was used. In fact, the greatest possible difference exists in regard to the toxic action of cocain and eucain, as was noted in the two following cases, the reports of which are taken from those above mentioned as illustrative of this point.

H. M., aged thirty-eight years, had been troubled with obstructive breathing in the nose for three or four years, which had been getting worse. He had used a spray of Dobell's solution for some time, but with only partial relief. Externally the contour of the nose was changed, being rounded out toward the cheeks on each side, altering the expression of the whole face. On rhinoscopic examination several polypi were discernible, hanging from the attic of the nares. After cleansing the field I applied a four-per-cent. solution of cocain to the right naris for the purpose of removing some of the growths with a snare. In two or three minutes the patient gave evidence that he was being affected by the drug by his rapid and loud talk and gesticulations. This was followed by great depression and dyspnea, the pulse becoming weak and slow. I placed him in a recumbent position and with the aid of amyl nitrite soon brought about his recovery. The next day, and several different times afterward, I used a four-per-cent. eucain solution, removing in all twenty-three polypi, and destroying their bases with the galvanocautery under eucain, without the slightest trouble manifesting itself and with perfect anesthesia.

W. K., aged thirty-two years. Multiple chalazion. Left eye, one on inner half of lower lid, one on outer half of upper lid. Instilled cocain solution in a few minutes caused such alarming syncope that I was obliged to place him in a horizontal position and use amyl nitrite and ammonia to bring about his recovery, and of course, suspended operations for that day. Three days following this, however, I extirpated the chalazions under eucain without any discomfort to the patient other than a slightly disagreeable hot taste caused by some of the eucain which had passed down the lacrimal duct. About a month later I removed another chalazion from his right upper eyelid under eucain without unpleasant effects.

I have cited these two cases simply to emphasize

the fact that there are cases, whether due to idiosyncrasy or not, in which cocain is precluded, and if eucain were of use in none other than these it would still be of decided value.

Conclusions.—1. Eucain is decidedly less toxic than cocain, therefore superior to it.

2. Its aqueous solutions keep well and can be sterilized by boiling without destroying the activity of the drug.

3. It produces anesthesia equally well and sometimes better than cocain.

4. It is superior to cocain in that it does not cause heart depression or other unpleasant effects.

5. It does not cause mydriasis or disturbances of accommodation, which is an advantage in some cases.

6. It is less dangerous to the cornea than cocain inasmuch as it does not cause desquamation of the superficial epithelium.

CLINICAL LECTURE.

THREE INTERESTING HEART CASES.[1]

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Case 1.—The patient is a well-built man, about forty-four years of age, but pale and haggard in appearance. His history is one of articular rheumatism five or six years ago and sequential endocarditis. When he is stripped one can see the pulsation of the carotid and brachial arteries, the latter, when his hands are held up being visible at least across this room and even further, about forty feet. On closer inspection one can detect pulsations in the temporal and radial arteries; the capillary pulse is marked. A better exhibit of the water-hammer or Corrigan pulse is impossible. The apex beat is fairly strong and circumscribed in the seventh space one inch outside the nipple line. Beneath the end of the sternum a strong impulse is noticed, due to the action of the hypertrophied right ventricle. Both subclavian arteries are seen to heave and throb to an excessive degree during arterial systole. Palpation proves the strong action of the left and right ventricles but does not detect thrills over any part of the heart area. The systole is found to be 84 per minute. Over the carotids a marked thrill is detected, systolic in time. Over the subclavians noticeable heaving is felt, and a systolic thrill of truly immense amplitude. This thrill is most pronounced over the left subclavian but is detectable in the upper portion of each brachial artery. The pulse is collapsing at the radials, but of great volume at the height of the arterial wave.

The collapsing quality of the pulse gives rise to an interesting sensation at the brachial artery near the elbow which, so far as I am aware, has not yet been described. Personally, I have found it only in pulses with the water-hammer quality in marked degree. Place the palmar surface of the left thumb vertically over the left brachial artery, the arm being extended. Make light pressure and notice the curious instantaneous tap with no precursory or succeeding sensations whatever. This tap is not detectable over the radials or the carotids. It is presumably due to the collapsing artery not being followed by the thumb in its inward movement. The vertical thumb is held outward by the surrounding tissue, and the artery collapses so suddenly that the thumb cannot follow it as can the fingers elsewhere. This tap or "hit and gone" sensation is interesting at least.

By the rate and strength of the cardiac systole it has been determined that hypertrophy predominates over dilatation. Percussion shows absolute dulness extending at least one inch to the right of the sternum and one inch beyond the left nipple line downward to the seventh space. Superiorly, it extends to the upper surface of the third rib. This is an extremely large area of dulness and denotes much enlargement of both left and right ventricles. Auscultation reveals a low, short, systolic murmur at the apex, heard best by means of a stethoscope with a rubber tubing. The heaving impulse if carried to the ear by a stiff instrument will overwhelm this murmur. It may be traced laterally and is audible in the posterior mitral area. In addition to this murmur of mitral regurgitation a low and indistinct diastolic murmur is detected over the second right interspace. It is transmitted down the sternum and is heard best at the left fifth intercostal space. A little to the left of this area is another murmur of slighly different pitch and quality and of decidely different time, it being systolic. These two murmurs shade off into one another, and might be mistaken for a single murmur were it not that one is diastolic at its maximum point, the other systolic. The diastolic murmur conveyed downward to this area is aortic regurgitant in origin and follows the usual course of these murmurs when pronounced. The systolic murmur is due to insufficiency of the tricuspid valves.

Elsewhere over the heart proper there are no murmurs, but at the second right interspace near the sternum there is a harsh rasping murmur systolic in time. In conjunction with the thrill at the carotids and the murmur which is transmitted there we might presume this murmur at the second right space to be due to aortic stenosis were it not that this sphygmographic tracing which I have recently taken shows us besides the quick and long down stroke of aortic regurgitation an absolutely vertical up stroke of great height. This strictly vertical ascent and exactly pointed summit disprove the presence of any actual stenosis at the aortic orifice at this date. When stenosis exists there must be less rapid filling of the arteries than under other conditions. The ascending stroke of the tracing then occupies an appreciable fraction of a second and is registered as slightly inclining. While there may have been stenosis at some time the present condition is probably one of dilated aortic orifice following the wear and tear of the increasing insufficiency. In such a condition there is usually dilatation of the aorta also at the orifice. This murmur may be caused by vibrations, generated

[1] A clinical lecture delivered at the New York Polyclinic Medical School and Hospital.

primarily by extremely roughened or deformed valves, or by the exit of blood from the ostium into an artery of increased caliber. The murmur must be regarded then as generated at or about the aortic orifice without any actual stenosis.

Following along the course of the aorta one hears over the sternum a louder, rasping, extremely disagreeable murmur. This increases toward the left and is most audible over the left subclavian artery where the thrill is best located. This murmur is heard through the stethoscope in both radials to a pronounced degree. It is doubtless endo-aortic, and due to changes in caliber, or to extreme roughening of the artery, or both. No actual stenosis can exist here in the aorta either, as evidenced by the tracing. The changes are doubtless those of dilatation and roughening. The carotid thrill can be induced by the great vibrations generated by this aortic condition as well as by stenosis at the orifice. To my mind the murmur at the second right costal cartilage and this more exaggerated one over the course of the aorta and subclavian are related, and are due to the effects of aortitis, *i. e.*, dilatation, roughening, etc. The thrills are of the same primary origin as the murmurs but they depend upon vibrations of less speed and greater amplitude than those which produce murmurs.

The treatment in this case has been extraordinarily successful. The first year or so the patient took large doses of iodid of potash, as much as 50 grains, three times daily, with only slight relief. Then treatment with nitroglycerin was inaugurated and has since been carried out. The arterioles are kept completely unlocked almost constantly. When the tension is allowed to become high through carelessness or from other causes he becomes uncomfortable and is subject to attacks of extreme dyspnea and pain with distressing headache. His constant use of the nitroglycerin has inured him to its action and very large doses are required. He averages about 2 grains of the drug a day. I have given ¼ of a grain in two hours during an anginal seizure with greatly increased arterial tension. In these large doses lie his salvation. There doubtless is marked degeneration of the aortic walls and probably of the coronary arteries. The nearly constant dilatation of the arterial system is of course participated in by the cardiac blood-vessels, and permits of excellent myocardial nutrition. The heart muscle being still so well nourished no cardiac tonics are called for. His condition is better than formerly but the prognosis is of the gravest. His liability to sudden death is very great.

Case II.—The second patient, a man forty years old, was before you two weeks ago. At that time he gave the history of a slight rheumatic attack some years previously. He had been perfectly well since then, until three days before coming here, at which time he was overcome by sudden dyspnea, great weakness, vertigo, and edema of the legs. An examination showed that his lungs were normal with the exception that there were some signs of edema posteriorly and below. His heart was much enlarged, the dulness extending one inch to the right of the sternum and 1½ inches to the left of the mammary line in the sixth space, where the apex was located by auscultation. You remember that the impulse was then neither visible nor palpable, and that no murmurs were present owing to the extreme weakness of the heart action. The pulse rate was 140 and difficult to count; the first and second sounds were indistinguishable from one another; in other words, the cardiac cycle resembled that of the fetal heart. The urine was scant and slightly albuminous.

Having excluded the possibility of pericarditis with effusion the diagnosis of great acute cardiac dilatation was made. I said that although no murmurs were present the lesion was probably an aortic stenosis or mitral regurgitation. The possibility of an uncomplicated mitral obstruction was excluded owing to the enlargement of the left ventricle. An aortic regurgitation might have been present, but this was hardly likely as the pulse in the carotids, where it was visible, was not collapsing as one would expect in aortic insufficiency. Then again, aortic insufficiency with a pulse of 140 would not permit the patient to rise from his bed without the probable occurrence of syncope.

The treatment was vigorous, consisting of the administration of half an ounce of the infusion of digitalis reinforced by one twenty-fourth of a grain of strychnin four times daily. The infusion was chosen for its double action on the kidneys and heart. Three days later his urine was not so scanty, and his pulse was somewhat stronger. The treatment was continued until his next visit, just a week from his first appearance. The urine was then abundant, about two quarts in the twenty-four hours. His pulse was 100 and much stronger. Strychnin was discontinued, and the infusion of digitalis continued with the addition of five grains of iodid of potash three times a day. The potassium iodid was given solely as a means of unlocking the arterioles and overcoming the tension in the arteries which was excessive. I have already explained the action of the iodids, as brought to notice by Balfour, in my previous talks on the employment of the vasodilators in heart disease.

To-day we find the area of dulness somewhat less, the apex beat visible and palpable about three-quarters of an inch outside the nipple line in the sixth space. By auscultation one can detect the great improvement in the heart sounds, the systolic sound being easily identified and of fair tone. A feeble systolic murmur is heard at the apex area and posteriorly, evidence of mitral insufficiency. Over the right second space is a very low-pitched systolic murmur probably due to aortic stenosis, but one must be cautious in so pronouncing it as these murmurs are sometimes produced in the anemic heart, as I have already demonstrated. The fact that this murmur is not accompanied by a thrill and is not conducted to the carotids does not by any means exclude stenosis, but means that it is too feeble to have the usual concomitant vibrations and areas of transmission. The sphygmogram shows a pulse of high tension but fair quality. The ascending stroke shows an angle of about 30° from the vertical, is distinctly slow in its ascent and rounded at the top. This, with the basic systolic murmur and the great enlargement of the left ventricle (greater than is usually seen in uncomplicated mitral insufficiency) makes the

diagnosis of some stenosis at the aorta probably correct. The pulse is now 80. Over the tricuspid area there is a systolic murmur of a rasping character, due to regurgitation at the right auriculoventricular orifice. This regurgitation is easily proved by allowing the patient to assume the semirecumbent position when an impulse is detected in the right jugular vein synchronous with ventricular systole. A slight diastolic pulsation can also be detected. This is not due to regurgitation at the orifice but to partial emptying of the right auricle upward into the veins on auricular systole, during cardiac diastole. This jugular movement, diastolic in time, is frequently seen in persons with hard working hearts when in the reclining position; the systolic pulsation never, unless the tricuspid leaks, and it is even then not always demonstrable.

The patient's condition is now fair, the edema is nearly gone, the urine is large in quantity. Not wishing to force the heart and kidneys so excessively now, instead of the infusion we will give him 10 drops of tincture of digitalis three times daily, which is a proportionately smaller dose than half an ounce of the infusion. The potassium iodid being well tolerated and the tension still too high we may slightly increase the dose to 8 grains three times a day. The patient must be carefully watched now; the temporary discontinuance of digitalis may be indicated at the next visit. With such dilatation and a pulse only as low as 80, with the passage of large amounts of urine there need be no fear from the use of the drug as yet.

These cases of acute failure of the cardiac muscle, the acute, severe breaking of a previously good compensation are always grave. One never knows how the myocardium may react to stimulation. What may appear to be a recoverable attack may be the onset of a slowly ingravescent terminal asystole. Treatment must be vigorous.

Now that the patient has left the room I will state that the prognosis is good for this attack, but bad for future ones. Sudden development of such cardiac symptoms without previous suspicion of heart disease points to a very sudden exhaustion of the muscle, and particularly when following the lesions which he has, is of poor prognosis. The complete giving way of the right auriculoventricular orifice is already assured and general venous stasis will at times supervene. However, the patient may continue for a long time under treatment without another collapse. To fix the date of final invalidism is naturally difficult in heart cases, but in this instance it is not far away.

Case III.—The third patient, a man forty-seven years of age, gives the history of having had attacks of pain in his chest and left arm for about ten years. During the periods of pain he also suffers from dyspnea. Five years ago he lost his voice rather suddenly and his condition was such that it necessitated his stopping work. At present he is about as he was then, according to his statement. He gives a specific history dating back twenty years and states that the diagnosis of aneurism was made a decade ago. He has been under observation at this clinic for about one year. His weak, cracked voice makes us suspicious of tubercular or specific laryngitis, or of paralysis of a cord. Examination of the larynx shows the left cord fixed in adduction, the cadaveric position. This is due to paralysis of an abductor by pressure on the recurrent laryngeal nerve, frequently by aneurism. It will also be noticed that the left pupil is fixed in contraction, responding neither to light nor accommodation, a myosis due to pressure on the sympathetic nerve, also pointing to aneurism. His metallic, paroxysmal cough is another pressure symptom. Inspection of the chest reveals nothing except the apex beat within the nipple line at the fifth space. There are no other pulsations of the chest visible. Palpation shows that the left pulse is slightly retarded; the rate is 70, the tension normal. There is a systolic thrill in the right carotid. Percussion reveals an abnormal area of dulness extending from the right margin of the sternum at the second cartilage upward to the first rib and across the sternum for about one inch and a half to the left. On this side it extends downward to the third rib forming a somewhat pear-shaped area. There is a dull area posteriorly between the second and fifth ribs near the left side of the column. The heart is quite normal in its sounds, with the exception of an accentuation of the aortic second sound which, if no evidence of general high tension be present, is a very valuable guide in aneurismal cases. In this instance the accentuation is not at all marked, implying but little dilatation of the aorta in its first division. At the second right space a low-pitched systolic murmur is detected which extends across the sternum and is lost to the left. There is also a transmission of this murmur up the right carotid. Now with a low-pitched murmur at the second right space, and a thrill and murmur systolic in time in the carotid one might be led to make a diagnosis of aortic stenosis, as these are classical symptoms of stenosis according to some observers. But as this thrill and murmur have to my certain knowledge been present a long time and the left ventricle is *not* enlarged one can positively exclude stenosis. It is an intra-aortic murmur, pure and simple, and denotes change of caliber or roughening or both.

The diagnosis of dilatation of the aorta (aneurism) can safely be made. The lesion is in the transverse and the commencement of the descending portion of the aorta, as is evidenced by the area of anterior and posterior dulness and the pressure symptoms in the larynx and eye. The presence of dysphagia and tracheal tugging with not much accentuation of the second sound aid in locating the aneurism. The present good condition of the patient and the stationary character of the symptoms, with the absence of detectable impulse lead to the opinion that there has been pretty firm fibrinous consolidation of the sac. The treatment for years has been with iodid of potash in large doses for long intervals. When the pain becomes severe he seeks treatment and is quickly relieved by this remedy. Besides its supposed action on the arterial walls the drug affords him relief, probably by dilating the arterioles and thus diminishing pressure within the aneurismal area. He has had no other treatment not even rest.

The points of particular interest in this case are the pressure symptoms in the larynx and eye, the undoubted intra-aortic murmur and its area of transmission with thrill,

the long duration of the disease, and the absence of other usual symptoms such as hemoptysis. These cases of deep-seated aneurism are extremely difficult to consider from a prognostic standpoint. Rupture of the sac may occur at any moment but the stationary character of the symptoms is at least hopeful. This man has lived an extraordinarily long time already, very much longer than the average one suffering from an aneurism.

MEDICAL PROGRESS.

So-called Typhoid-Pneumonia.—Smith (*Mary. Med. Jour.*, September 2, 1899) draws the following practical conclusions in regard to the use of the term "typhoid-pneumonia": In view of the fact (1) that the majority of pneumonias occurring in the course of typhoid fever are not caused by Eberth's bacilius, but by the pneumococcus, and (2) that asthenic pneumonias with so-called typhoidal symptoms have nothing in common, so far as etiology is concerned, with typhoid fever, it would seem advisable to discard the term typhoid-pneumonia as savoring too much of inaccuracy. For those rare cases in which it can be proved beyond doubt that the pneumonic processes as well as the general typhoid infection are both due to the bacillus of Eberth we still have the term pneumo-typhoid, the use of which, however, should be subject to these strict limitations. Accuracy in terminology is the first step toward a reasonable therapy, and calling conditions by their wrong names must inevitably lead to a less clear-sighted management of them.

Excision and Suture as a Cure for Impermeable Stricture of the Urethra.—Deanesly (*Brit. Med. Jour.*, July 29, 1899) reports a case in which he cured an impermeable stricture of the urethra about half an inch long and situated at the anterior part of the bulbous urethra by resection and suture. He made an incision from the anus to the scrotum and easily exposed the constricting portion. But although the urethra was opened in front of and behind it, it was impossible to pass even the finest probe through the stricture. The strictured portion was therefore resected and the healthy portions of the urethra sutured with six silkworm-gut sutures which were passed through all the coats of the urethra. Other sutures were passed through the outer coats. The catheter was left in position and the urine was exhausted by Cathcart's apparatus. By this means the wound was kept perfectly dry for ten days. The catheter was then removed but was used to draw off the urine several times daily. The operation was very successful and a year later there was no sign of contraction, though a sinus still persisted, due apparently to a silk-worm-gut stitch. There was no leakage of urine, however, either during or after micturition.

The Nature of Black-water Fever.—Dowler (*Brit. Med. Jour.*, July 15, 1899), who has practised in Bengal for some years, states that black-water fever is rare among the natives although they make the misleading assertion that they have passed bloody urine, when it is merely of a high color due to malaria. The disease differs from malaria in the hemorrhagic character of the urine, in the fact that it runs at a lower temperature, seldom above 101° F., in the muscular weakness and prostration, and in the tendency to syncope. In spite of these differences, Dowler questions whether malaria and black-water fever may not both be due to similar if not the same causes.

Management of Pregnancy Complicated by Abdominal Tumors.—Hall (*Jour. Amer. Med. Assoc.*, September 2, 1899) says that the ease with which some patients recover after the removal of abdominal tumors during pregnancy, should not mislead one into the belief that there is no danger of abortion under such circumstances. If it does occur, its risk is greater than at other times, yet this fact should not deter one from an operation which is clearly indicated. Operation is advisable in all cases in which the tumor is small and fixed in the pelvis below the uterus, so that it cannot be lifted out of that cavity. Operation should also be performed if the tumor itself presents complications such as a twisted pedicle or a ruptured cyst. Operation is not to be advised during pregnancy if an ovarian tumor is above the uterus and is too large to occupy the pelvic cavity and does not give rise to important symptoms. The writer advises operation in all cases in which a fibroid tumor occupies the lower segment of the uterus in such a position as to interfere with delivery at full term. The time selected for operation must depend upon the individual case. If the woman has passed the fourth or fifth month of gestation and it is possible to carry her nearly to full term, the question of saving the child must be discussed. If her surroundings are favorable this may be attempted. In many cases the long-continued pressure upon the ureters interferes with the action of the kidneys to such an extent that immediate operation should be performed, else the mother if allowed to go on to full term will be likely to die after the operation from urinary complications. This is even more likely to be the case if the tumor develops in the broad ligament.

Differential Diagnosis of Smallpox.—Corlett (*Nir. Med. Semi-Monthly*, August 11, 1899) insists upon the importance of the recognition of smallpox on account of the harmless appearance of mild cases and on account of the difficulty of maintaining strict quarantine regulations, unless a positive diagnosis is made. All forms of smallpox are essentially the same and the source of contagion no matter how bland is no criterion as to what form the disease will assume in those exposed to it. The typical smallpox lesion is indurated. In typical smallpox or varioloid the most prominent lesions may be composed of small blisters which when punctured absolutely collapse, but in all cases there will be some indurated lesions. In the initial stage smallpox often simulates cerebral meningitis more closely than any other disease. Again, the severe epigastric pains and vomiting have led the physician into thinking that intussusception or appendicitis is present or that the patient had swallowed some poisonous material. In the initial stage smallpox may be mistaken for measles on account of the erythematous eruption which is not infrequently present during the initial fever. In measles the rash appears later, on the third or fourth day of the disease, while the mucous symptoms which are so promi-

nent in measles are nearly or quite absent in smallpox. There is never any induration in the lesions of measles. With the appearance of the eruptive stage the temperature rapidly falls in variola but not in measles. Scarlet fever may be confounded with varioloid but the premonitory symptoms of the former are by no means so severe as are those of the latter. The pulse in scarlet fever is rapid out of proportion to the mild fever. In variola the two agree. The rash of scarlet fever is brighter than that of variola and occurs first on the chest, cheeks, and neck instead of on the lower portion of the abdomen and thighs. The cervical lymphatic glands often swell in scarlet fever, rarely in the early stage of variola. The scarlet tongue so characteristic of the former is absent in the latter. The prodromal rash of variola seldom occurs in young children. Smallpox has been mistaken for impetigo. The lesions of the latter disease which led to this mistake were due to secondary infection of the smallpox lesions by ordinary pus cocci, giving rise to a collection of serum under the epidermis surrounding the encrusted smallpox lesion. Such an error in diagnosis will hardly be made by any one familiar with the two diseases. Chicken-pox and smallpox have often been confounded and in Germany it is still taught that the two diseases are identical. Histologically, however, the lesions have been shown to differ in location, as well as in the manner of their formation. In varicella the superficial strata of the epidermis are principally involved while in variola the first changes take place between the epidermis and the capillary layer of the derma; consequently the lesions in varicella are easily destroyed, whereas in variola it is impossible to rupture the lesions so as to evacuate the entire contents without numerous punctures. In varicella multiple lesions are the rule. In variola the lesions present a uniformity of development. In varicella the lesions are short-lived, lasting but a day or two. In variola a fortnight or three weeks completes the life-history of the lesion. Even in mild cases of variola in which the lesions have a shorter life-history the multiple form character is less conspicuous than in varicella. Varicella is essentially a disease of childhood. It is seldom if ever seen after puberty. Premonitory symptoms of smallpox have more than once been mistaken for those of grip. This illustrates the necessity of daily visits in doubtful cases, especially if there are smallpox patients in the neighborhood. The appearance of the eruption ought to correct the error. Syphilis has been mistaken for smallpox and the eruptions caused by the ingestion of certain drugs, such as cubebs, copaiba, and iodid of potash, may lead to a similar mistake. The absence of all febrile symptoms, the history of the patient, and the odor of the drug, will usually serve to correct the diagnosis.

Thrush in Nursing Infants.—HUTINEL (*Wien. Med Blat.*, August 17, 1899) says that an exclusive local treatment has only a palliative effect in cases of infantile thrush because the source of trouble is not local but is in the sour secretion of the mouth which is the result of an acid dyspepsia. His practice, therefore, is to wash out the stomach with an alkaline water, Vichy preferably, repeating the process twice daily. About six ounces of water are allowed to flow into the stomach and siphoned out again. In simple cases a cure is usually effected in three days. Even in severe cases it is rarely necessary to extend the treatment beyond six days. Local treatment of the mouth was altogether given up by Hutinel.

Calentura Compared with Yellow Fever.—TEBAULT (*New Orleans Med. & Surg. Jour.*, September, 1899) says that the specific fever existing in the tropics, to which the Spaniards have given the name of calentura, and which caused such a scare among the American troops after the surrender of Santiago, presents so many symptoms in common with yellow fever that a severe case of it may easily be confounded with yellow fever, especially if jaundice is present. In the majority of instances the fever is of two-and-a-half-days' duration and is preceded by a morning chill. The initial temperature (103° F. to 105° F.) is higher than that of yellow fever. The pulse becomes slow much sooner than in yellow fever and remains slow for a longer period. There is prolonged debility rather than "calm" or collapse. Gastric irritability is slight, jaundice less common, albumin absent or, if present only in small quantities. The liver is increased in size. There are no secondary infections. There is often bleeding at the nose but rarely hemorrhage elsewhere. Attacks are prone to recur every two or three months among foreigners and once or twice a year among natives. The fatality is practically nothing. The disease spreads more rapidly than yellow fever. Yellow fever often travels in the wake of the more active calentura or the two diseases may occur side by side; but yellow fever is so rare as compared with calentura that the writer speaks of it as a "four-leaf in a patch of clover."

THERAPEUTIC NOTES.

Calomel as a Diuretic in Cardiac Affections.—BOURGEON (*Rev. de Therapeut.*, August 15, 1899) says that diuresis produced by calomel in valvular affections of the heart increases as the drug is continued, but is essentially temporary in that its action ceases with the suppression of the remedy. The quantity of urine excreted is variable, and seems to depend upon several factors, such as the constitution of the patient, the nature of the trouble, and the degree of edema; but it is remarkable that polyuria is more accentuated when the dropsy is of cardiac origin. The daily quantity of urine voided ranges from a pint to three quarts, and the dose of calomel necessary to obtain diuretic effects varies from 3 to 6 grains per day. This amount should be given in one or two doses in a little milk every two, three, or five days according to circumstances. If albumin appears in the urine the calomel should be stopped. This powerful remedy should be reserved as a last measure. If digitalis, squill, milk-diet, and cooling drinks in large quantities do not produce diuresis, one may resort to calomel. As it is absolutely impossible to foresee its exact results it should be used with great caution.

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PHOTOTHERAPY AND ITS POSSIBILITIES.

During the past few years there have been occasional rumors of the possibility of the light-rays being used as a therapeutic agent, especially in skin diseases. It is well known that the violet rays of the spectrum affect bacterial growth unfavorably. Some years ago, Finsen of Copenhagen pointed out that the scars left after an eruption of smallpox, were much less serious if the patient were protected from the action of the rays of light belonging to the violet end of the spectrum, as these produce irritation of the skin when concentrated, and in inflammatory conditions such as smallpox naturally aid in the destruction of tissue and consequently intensify the subsequent pitting.

After demonstrating that his theory was correct and that the bad effect of these rays could be eliminated Professor Finsen experimented further with the idea of making use of the violet and related rays for therapeutic purposes. The results of his experiments were followed with great interest. Nearly two years ago Lesser, professor of venereal diseases and dermatology at the University of Berlin, in a lecture which appeared subsequently in the *International Clinics* said that the most promising therapeutic agent against lupus vulgaris, providing it proved as successful in other hands as in those of the discoverer, was Finsen's phototherapy. Finsen's demonstrations at the congress for tuberculosis in Paris last year did not come as a surprise but they did succeed in convincing the most skeptical of the important therapeutic power residing in rays of light.

Finsen's assistant, Dr. Valdemar Bie of Copenhagen describes in the *British Medical Journal* for September 30, 1899, the methods and results of Finsen's treatment. The only indications for treatment are that the disease be superficial, local, and of bacterial origin. So far the light treatment has been applied to lupus vulgaris, to lupus erythematosus, and to alopecia areata. In lupus vulgaris, as the pictures of patients before and after treatment attest, the result is probably better than that secured by any other method of treatment. The application is painless and the liability to relapse is slight. In lupus erythematosus the effect is not so satisfactory and relapses are rather frequent. In alopecia areata the results have been most encouraging and seem to demonstrate, beyond all doubt, that that affection is of bacterial origin.

The method of treatment consists in concentrating on the affected parts the violet and ultra violet rays of light. The sunlight of a bright day or the light of a strong electric-arc light of 50 to 80 amperes, is employed to furnish the white light. From this all rays except those chemically most active are filtered out by means of a blue lens. A hollow glass lens filled with a proper colored blue solution, as a dilute solution of ammoniated copper sulphate, helps to cool the rays as they pass through to the skin. For the electric arc, lenses of quartz are used because they allow the violet rays to pass more readily than do those of glass. The patients are protected from the heating effect of the concentrated light by a small hollow glass disk, pressed close against the skin, through which cool water is allowed to circulate constantly. A little experience soon gives facility in managing the apparatus and the danger of accident from the concentrated rays is very slight.

Professor Finsen's work deserves to be known and his suggestions to be put in practice on a much wider scale than has yet been attempted.

THE INCREASE OF CANCER REAL NOT APPARENT.

DIRECTLY after the publication of Dr. Roswell Park's striking article on the increase of cancer [MEDICAL NEWS, April 1, 1899], there followed quite a discussion in the medical journals of this country and of England as to whether the increase of cancer, according to the mortality statistics, was apparent or real. A number of letters were written by those who could not bring themselves to believe that cancer is really on the increase, in which they endeavored to show that the apparent increase is really due to better methods of diagnosis. A number of obscure internal conditions that were formerly set down in the mortality statistics under various names according to the special symptomatic condition that was most prominent in them are now correctly diagnosed and reported as cancer.

So great is the tendency to refuse to accept what is new, when it is a surprise or has been entirely unexpected, that the majority of the profession have been rather inclined to revert to this explanation of the statistical increase of cancer. It is undoubtedly true that the gradual evolution throughout the profession of better diagnostic methods as to internal cancer has led to the addition to the cancer mortality statistics of a certain number of deaths that were formerly set down as due to other causes, but this factor by no means is sufficient to account for the greatly increased prevalence of the affection that is reported from year to year.

The statistics of the Registrar-General of England for the year 1897 have become available since the discussion in the spring. Dr. Tatham in the introduction to the Registrar's report does not accept the view that the increase of cancer in recent years is only apparent, though he admits that during the decade from 1870 to 1880 this factor probably played an important rôle in the increased number of cancer cases reported. Since then the apparent increase for this reason has been growing steadily less and less, and at the present day we surely cannot say that from year to year there is such a progressive betterment of methods of diagnosis as would add markedly to the number of cancer cases reported.

In the London *Lancet* for September 16, 1899, Dr. Payne makes an interesting comparison between the death-rate from cancer and from tuberculosis in the female sex during the two years at the beginning and end of the last score of years for which we have reports. In 1877 the death-rate for females from cancer was 636 per 100,000, that from phthisis was 1967 per 100,000; *i.e.*, the cancer death-rate was less than one-third that of tuberculosis. In 1897 the death-rate from cancer was 929, that from phthisis 1162, per 100,000, a ratio of 4 to 5; that is, cancer now causes in English women four-fifths as many deaths as are caused by phthisis, a condition of affairs that is certainly very surprising especially to those who are prone to think of cancer as a comparatively rare disease.

Some of this approach of the death-rates from the two diseases is due to the improved methods of dealing with consumption which has made it much less fatal. The increment of nearly fifty per cent. in the death-rate per 100,000 from cancer is, however, sufficiently startling to make us realize the importance of the present comparison. This death-rate, it is to be remembered, is among women, while it has been argued that it was especially the statistics of cancer among men that showed that the increase was apparent not real. We are, then, surely in the presence of a highly increased mortality from cancer, and this is not due to the lessened number of deaths from infectious diseases, nor to longer average life, but to actual heightened incidence of the malignant affection.

MICROBES IN THE ARCTIC REGIONS.

RECENT explorers in both the Arctic and Antartic regions have brought back interesting information concerning bacterial life in the frigid zones. It has long been known that travelers in the Arctic territory suffer very little from excessive changes of temperature, and are entirely free from colds and coughs which are so frequently observed in the winter in our own latitude. Nordenskiold is authority for the statement that Spitzbergen in the summer time is the healthiest portion of the earth. Levin made a number of cultures of the air in Spitzbergen and in King Charlesland. Samples of air were taken on the surface of the glacier, on the coast, on the top of a cliff, as well as on board ship. In each instance at least 1800 liters (nearly 50 gallons) of air was filtered, indicating an elapsed time during the experiment of four or five hours. In only one in-

stance were bacilli found. In that case the air was taken from the deck of the vessel while it was in harbor, and as only three colonies of bacteria developed, it is at least a question whether a grain of dust from the ship did not get into the gelatin. On the other hand, all samples of water, whether taken from the surface of the sea or at a great depth, or from a glacier or obtained by melting snow or ice, were found to contain bacteria, although in very small numbers. At the surface of the sea Levin found one germ for each 11 c.c. (3 drams) of water—a quantity of germ-life which is absolutely insignificant. The same amount of water taken from the River Seine has been found to contain more than two million bacteria. A curious fact was noticed in that the water taken from the ocean at great depth invariably contained more bacteria than water from the surface, and this in spite of the fact that deep water in the Arctic Ocean is usually below the freezing-point. Levin made another series of experiments in order to determine the bacterial condition of the intestinal contents of various animals, white bears, seals, reindeer, eider ducks, penguins, gulls, frigate birds, sea-urchins, sea-anemones, shrimps, etc. These experiments showed him that in most of these animals the contents of the intestine are almost entirely sterile. In one white bear and in two seals was found a species of bacteria which resembled the bacillus coli commune. The inferior animals, sea-urchins, sea-anemones, etc., usually contained bacteria.

While scientists have long held that bacteria are not indispensable to digestion, it is extremely interesting to receive this proof of their statement direct from the natural world. This fact and the fact of the existence of a whole world of bacterial life at a temperature sometimes 3½° F. below the freezing-point are the most valuable results of Levin's researches, a full report of which will be found in the July number of the *Annales de l'Institut Pasteur*.

THE PLAGUE ONCE MORE.

We stated recently that just when the sanitary authorities at Alexandria were sure that they had seen the last of the plague, and just after the editor of the *British Medical Journal* had thought it opportune to compliment them on their happy deliverance from the dread disease on such comparatively easy terms, came the announcement of the discovery of new cases of bubonic plague in the city, some of which proved fatal. Almost the same thing has happened at Oporto in Portugal. At first every assurance was given that the disease would be kept well under control. Successive official reports were more and more encouraging until it looked as if all danger from this quarter could be considered as past. Then came disquieting reports as to the doubtful efficiency of the sanitary cordon that had been established. Finally, there are definite accounts of a recrudescence of the disease in Oporto and its occurrence among the soldiers who form the military cordon of sanitation.

We have pointed out before that this intermittent method so well calculated to disarm suspicion is not new to the plague, that it has been in fact characteristic of its invasion in all the great epidemics of history. By the people in Portugal the danger from the plague has never been taken seriously. On the contrary, they oppose in every way the enforcement of the sanitary regulations necessary to prevent its spread. Only last week there was the report of plague quarantine officers while on duty having been stoned by the people and compelled to call upon the military for protection. Even intelligent people insist that though the disease is present it will not spread in epidemic form in the present condition of civilized life.

This attitude of overconfidence in the safeguards of modern life was what gave plague its hold in India during the present epidemic, and it is constantly spreading there now despite all that is being done. These recent failures to stamp out the disease at Alexandria and Oporto show that it is not so easy to deal with as was thought. They emphasize the necessity for the strictest quarantine regulations to prevent its entrance. We have previously pointed out our danger on the Western coast and the necessity for constant watchfulness. In the light of recent events especially the occurrence of chronic ambulant cases of plague, another source of danger becomes manifest. There is the possibility of plague gaining an entrance at some of our lesser ports where only sailing vessels touch. At these points medical officers are apt to be unfamiliar with plague and vessels may more readily escape rigid in-

spection. The present prosperous trade conditions have made the possibilities for plague invasion by this way even greater than before. No precaution should be spared to make these lesser ports as secure as those of the large cities, for a Nation's quarantine is only as effective as its weakest point.

ECHOES AND NEWS.

The Tri-State Medical Society.—This society, which covers in its scope the States of Alabama, Georgia, and Tennessee, will hold its eleventh annual meeting at Chattanooga, October 24, 25, and 26, 1899. The preliminary program has already been published.

A Paris Doctor of Pharmacy.—The degree of Doctor of Pharmacy has just been conferred by the University of Paris for the first time. The recipient is M. Lacourt, who presented a graduation thesis, entitled "Historical, Chemical, and Bacteriological Study of the Versailles Water."

Obituary.—Dr. J. N. Brownlow of Ogdensburg, New York, died suddenly of angina pectoris on October 10th, just after he had delivered an address before the Northern New York Medical Association. The doctor was sixty-five years old.—Assistant-Surgeon W. R. McAdam, who was in charge of the Marine Hospital at Key West, died of yellow fever on October 12th.

Physician Robbed in Chicago.—Dr. Oscar W. Hubbard, a Chicago physician, was waylaid by two highwaymen on the morning of October 14th, just after he had visited a patient. Revolvers were pressed to his head, he was dragged into an alley, thrown to the ground, and robbed of a gold watch and diamond pin. One of the robbers was caught and identified by Dr. Hubbard.

The American Public Health Association.—The twenty-seventh annual meeting of this organization will be held at Minneapolis, Minn., October 31 and November 1, 2, and 3, 1899. The topics for discussion, as announced in the program, quite completely cover the entire field of hygiene and sanitation. Railroad and hotel accommodations have been arranged for and a large and interesting meeting is expected.

Death from Hydrophobia.—Charles O. Young, a boy seven years old, living in Jersey City, New Jersey, was bitten on the hand by a vagrant dog about six weeks ago. Two physicians made a diagnosis of acute hydrophobia. Dr. Gibier was consulted on October 11th. He advised that the time had passed for the possibility of effective treatment by the Pasteur method and that the Bouisson hot-vapor treatment be tried. This was ineffectual and the boy died in great agony on October 13th.

California Not to Bar Consumptives.—The State Board of Health has decided not to quarantine California against the consumptives of other States. It has adopted a resolution, however, recommending that in all State institutions those afflicted with tuberculosis be separated from the other inmates. This is a very sensible modification of the radical measures of absolute exclusion of all consumptives at first proposed. While tuberculosis is undoubtedly contagious it is not so to such a degree as to make quarantine regulations advisable.

The Influence of Americans in Cuba.—*El Epoca* of Havana says: "Contact with a race which does not tolerate the shirking of daily labor, and among which, before everything, a man is the legitimate child of his own merits and his own deeds must be to us a powerful stimulant for discarding once and forever the accumulation of habits which constitute the unfortunate inheritance of a régime based upon the exploitation of the negro by the white, and the native born white by the peninsular white, and all by the government."

The Loomis Sanitarium Burned.—The Loomis Memorial, or Administration Building, a gift of Mr. J. Pierpont Morgan to the Loomis Sanitarium at Liberty, Sullivan County, New York, was entirely destroyed by fire on October 14th. The loss is from $75,000 to $100,000; the insurance is $50,000. There were one hundred inmates, all of whom were removed safely. The nine surrounding cottages and the other buildings remain intact. The fire is supposed to have originated from the explosion of an alcohol lamp.

Some Enormous Tumors.—The *Lancet* has lately presented some remarkable records of tumors. The largest known uterine tumor weighed 195 pounds, described by a Bucharest physician. Hunter of New York removed one weighing 140 pounds from a woman whose weight without the tumor was 95 pounds. The largest fibroid is said to have weighed 106 pounds. The record for ovarian tumors is held by a Chinese patient, who had one weighing 169 pounds; without it she weighed 77 pounds. For mammary tumors a case is recorded in which the growth in one breast weighed 46 pounds and in the other 40 pounds.

The Yellow-Fever Situation does not show much change from last week. There was one death from the disease at New Orleans on Friday of last week, but recently no new cases have been reported. It is announced that Spain has quarantined against New Orleans because of the presence of yellow fever, and it is thought that other Mediterranean ports will do likewise. This seems an unfortunate and needless precaution, now that the epidemic is practically over. New cases of yellow fever to the number of about 15 or more are being reported every 24 hours at Key West. Santiago de Cuba had been remarkably free from yellow fever for some time until the disease was imported from Havana.

Our Troops in Cuba Healthy.—In a letter which Surgeon-General Sternberg received on October 9th from Major Vallery Harvard, Chief Surgeon of the Department of Santiago and Puerto Principe, it is stated that the percentage of sick men in the commands with which he is

connected seldom exceeds five per cent., practically all the sickness being malarial fever of a mild type. At Puerto Principe nearly two regiments are in camps, having been driven from their barracks in the city by yellow fever. These are model camps as regards hygiene and comfort, and the sickness in them is only four per cent., just about the same as in the United States. Our troops cannot safely live in the Cuban towns. With the exception of those at Baracoa, Gibara, and Holquin, which have not yet given any sign of infection, all the old Spanish barracks in the towns have been abandoned.

Indian-Plague Horrors.—A correspondent of the *Scotsman* writes concerning the plague in the city and cantonments of Poona, that to Defoe's most realistic pictures of the plague of London must be added the Asiatic peculiarities. There is the funereal pyre of the Hindu for ghastly cremation, deserted the moment it is lit, and then abandoned to the jackals and the vultures. There is the ghoulish Mohammedan cemetery, where the bodies are tossed or dragged, and not one foot of earth covers them. So few of the living are left to remove the dead that, as in London, the death-cart goes its rounds and disposes of the victims wholesale. Two-thirds of the city's native population have died or fled, and among the remaining third there are 1100 deaths a week. Two new features which have lately appeared are the black death and the fatal infection of Europeans. The latter is chiefly due to the impossibility of nurses and physicians and benevolent persons dealing with the hundreds who crowd the hospitals, "and yet they must work on till they themselves drop." Since August 1st 500 victims a day have filled the General Plague Hospital, notwithstanding the fact that only 104 have been returned as cured in the first fortnight.

The New York State Medical Association.—The program of the sixteenth annual meeting of this society, to be held October 24, 25, and 26, 1899, at the New York Academy of Medicine, New York City, has been issued. It gives promise of an unusually interesting occasion. The important feature of the meeting will be the discussion, to be held Tuesday evening, October 24th, on "Medical Expert Testimony." The speakers will be Hon. Willard Bartlett, Justice of the Supreme Court; Hon. Joseph F. Daly, former Justice of the Supreme Court; Charlton T. Lewis, Esq.; William A. Purrington, Esq.; and Theron A. Wales, M.D. A discussion on "Typhoid Fever" will take place on the afternoon of Wednesday, October 25th. Papers will be read on this subject by Drs. Herman M. Biggs, W. H. Park, Wm. Osler (of Baltimore), W. H. Thomson, Reginald Fitz (of Boston), A. A. Smith, Abram Jacobi, De Lancey Rochester (of Erie County), W. W. Keen (of Philadelphia) and A. T. Hubbell (of Erie County). The individual papers on various subjects will discuss topics of practical interest. On Wednesday evening, at the Academy of Medicine, a reception will be given to the invited guests of the society, Professors W. W. Keen, William Osler, and Reginald H. Fitz. Special invitations have been sent out for this occasion.

The Status of Therapeutics in France.—A correspondent of the *Boston Medical and Surgical Journal*, in a letter on this subject, paints a doleful picture of the decline of therapeutic knowledge in the rising generation of French doctors. Quoting a professor of materia medica he says: "It must be admitted that the scandal of our times is the shameful ignorance shown by an infinite number of physicians concerning the real action of drugs. Although our practitioners are pretty fair clinicians, they are almost all unaware of the true properties of the remedies which they handle every day with extraordinary heedlessness." It is admitted, however, that this is due to the skeptical attitude on the subject of drugs entertained by the professors themselves. One is quoted as saying in a lecture: "Gentlemen, when you are in practice you will see that the point that will most impress a confrère is a correct diagnosis; the patient's family will be most impressed if your prognosis turns out correctly; but you yourself will be most impressed when your treatment is followed by any improvement that you think can fairly be ascribed to it." The young doctor, therefore, when he comes to start in practice, is obliged to resort to one of two expedients: he either hurriedly learns by heart a certain number of prescriptions from some of the many books of formularies, or else he prescribes proprietary medicines. How rapidly is the profession of America drifting in the same direction?

A Case of Cerebrospinal Rhinorrhea.—Dr. St. Clair Thomson of London presented recently before the London Laryngological Society a case in which he succeeded in demonstrating to the satisfaction of his brother specialists that the practically continuous rhinorrhea was really a discharge of subarachnoidal fluid. The discharge, except for the annoyance of its continual dropping, did not inconvenience the patient in the least. On the contrary, vague pains in the head from which the woman suffered before the establishment of the discharge have since ceased, and only return when for some reason there is a temporary obstruction to the flow. Dr. Thomson has succeeded in finding in medical literature reports of some twenty cases, which he thinks should be classified in the same category with the one he has had under observation. Most of them have been described simply as persistent "dropping of watery fluid from the nose." Beyond the fact that this is an actual cerebrospinal rhinorrhea, very little is known. Dr. Thomson himself thinks that it is probable that the fluid finds its way from the subarachnoid space at the base of the skull, within the perineural sheaths of the branches of the olfactory nerves, though of course the possibility of its finding its way by some other route cannot be denied. He thinks that the condition is always associated with increased intracerebral pressure. Of the twenty-one patients, including his own, no less than seventeen presented some cerebral symptoms, and eight of them showed retinal changes.

The Mosquito as a Disseminator of Malaria.—Of great interest was the paper by Professor Grassi of Rome, presented at the meeting of the German Naturalists and Physicians, recently held at Munich, concerning the inoculation of malaria through the study of

the *anopheles*. According to Grassi, Koch has simply repeated the investigations and confirmed the results of Ross and Bögeln, and has made no direct experiments on man. Such, however, were made by Grassi and his co-workers, Bignani, Bartianelli, and Dionissi, in the damp, feverish surroundings of Rome, and through study of the zoological side of the question very weighty results were obtained. Grassi differentiated three species of parasites found in the red blood-corpuscles, namely, hæmameba malaria, vivax and precox. In all three species, which by many are looked upon as one, an asexual multiplication takes place in the blood of man, and finally so-called half-moon forms, with flagellæ, are seen. As in other protozoa, so also in the malarial parasite sexual multiplication finally occurs. This takes place in the blood after its ingestion by the mosquito. The flagellated crescents are the spermatoids and other larger bodies, the ovoids. In the mosquito fertilization follows, while in man the forms remain sterile. From this union there is found in the intestine of the mosquito a gregarinaceous stage, in which the young sporozoa develop. These finally become freed, are absorbed, and find their way to the salivary glands, so that when the mosquito stings they are injected into man, and the cycle is again completed. This occurs only with the mosquito known as *anopheles*, and not, as Koch believes, in the *apicus culex*, since experiments with the latter have always given negative results. For the development usually a temperature not less than 16° C. is required, and better 20° or more, which is found in the mosquito. From January to May the forms are absent in the mosquito.

The Plague Situation has not improved. Fresh cases of plague continue to occur at Oporto in Portugal. Soldiers engaged in duty with the military cordon have developed plague. Moreover, outside the military cordon, 10 cases and 5 deaths have occurred at two villages. In consequence of these outbreaks the cordon of troops has been extended. This is the old story : the cordon serves but to spread the disease, and is a form of quarantine which ought to be discredited and forbidden. During September there were 17 cases of plague altogether in Oporto and 4 deaths from the disease. There is no news of plague in any other part of the Peninsula. There are certain persistent rumors that cases have occurred and are occurring in France, but they seem no more than the merest rumors. France has wakened to the danger on her Mediterranean coast. On her northern coast, too, special precautions are being taken. The *British Medical Journal* for October 7, 1899, says : "The plague epidemic at Oporto continues to cause anxiety to the French Government. All along the coast, from Brest to Hendaye, warnings have been issued to the fishermen to refrain from visiting the northern ports of Spain and Portugal, whither they are accustomed to go in search of bait. Not a single death has occurred among the patients who were inoculated with the serum from the Pasteur Institute, and Dr. Metchnikoff declares that France need have no fear of an epidemic, and that it was only due to the stupidity of the Portuguese authorities that the epidemic was continuing to prevail. On October 14th, a case of plague was discovered at Plymouth, England, on board a vessel which had just arrived from Bombay."

At Alexandria a repetition of the usual game of hide and seek on the part of the plague has occurred again. The city was officially reported free of plague in September when, on the 23d of that month two new cases occurred. Once more the absolute banishment of the disease was announced, but last week, at least one fresh case appeared. The situation in India is decidedly improved and would look very hopeful but for the fact that among the new cases being reported each day there is usually one or more among the white population. They have up to this time, been reasonably immune to the disease, but the epidemic has evidently acquired sufficient virulence to overcome this immunity. The *British Medical Journal* in the last issue that reached us sums up the state affairs in India as follows : "During the second week in September the total plague mortality amounted to 4094 in the Bombay presidency alone, and of these well-nigh one-fifth occurred in the city of Poona. In Calcutta during the period referred to 45 deaths occurred. In Poona the virulence of the epidemic is expended and the city is beginning to resume its normal appearance. Several officers of the Royal Scots Regiment have suffered from plague in Poona." The disease has subsided at least temporarily on the Chinese coast. At Mauritius it still rages severely. During the last week in September 55 fresh cases and 47 deaths occurred on the Island. At the beginning of October it was raging with the same virulence.

MEDICAL MATTERS IN NEW YORK.

DEATH OF DR. JIMINEZ—SMALLPOX IN A BATTERY TENEMENT—A FRAUDULANT SOLICITOR FOR HOSPITAL FUNDS—MEDICAL "SCHOOL INSPECTION"—CITY AID FOR PRIVATE CHARITIES.

DR. PEDRO Y. JIMINEZ, a Puerto Rican of noble birth, who until recently was a house surgeon at the Columbus Hospital in this city, died on October 7th. He was a Bellevue graduate.

A Syrian immigrant, who had come from Europe only a week before his death, died from smallpox on North Brother's Island October 9th. He had been living in a Battery tenement with some 300 other people, and the inmates are being carefully watched for the occurrence of additional cases of the disease.

A sleek-looking individual in clerical garb has been soliciting contributions for the German Hospital and Dispensary. This hospital does not employ any person to solicit subscriptions, and it is hoped this swindler will be apprehended and jailed.

Dr. Henry G. McAdam read a paper before the City (Charity) Hospital Alumni recently on "The Benefits of Medical Public School Inspection." This movement was begun under President Wilson of the Health Board of New York City in 1897. During the first three months of the inspection 2637 children suffering from contagious diseases were excluded from school. In 1898 the average total attendance per day was 456,394. There were re-

ferred for examination 139.965 children, of whom 7606 were excluded, with the following distribution:

Parasitic diseases of the head	3502
Contagious eye diseases	1627
Skin diseases	703
Mumps	517
Chicken-pox	380
Whooping-cough	276
Measles	253
Parasitic diseases of the body	152
Diphtheria	118
Scarlet fever	32
Croup	25
Miscellaneous	21
Total	7606

It has been no uncommon thing in the past to see public schools closed because of epidemics among the children; under the present system this has already become an impossibility. The value of this inspection as regards the suppression of contagious diseases throughout the city generally, though it cannot be measured, is no doubt very great.

Representatives of many private charitable institutions were present at the meeting of the Board of Estimate on October 13th, when the final items in the city budget for 1900 were considered. A synopsis of the suggestions made by Comptroller Coler in his report of September 1st, and of the resolution which he offered in connection with the report, were read, and the representatives of the institutions interested were asked to express their opinions. Nearly all spoke in favor of the recommendations. Only Henry W. Maxwell of the Long Island College Hospital and Mrs. E. V. V. Knox of the American Female Guardian Society spoke in opposition to them. The Comptroller's plans were modified at the suggestion of the Mayor, so that as read, they excluded the apportionment of all public money for private charities from the budget, but not from the Excise Tax Fund, the Concert License Fund, and the School Fund; that all institutions caring for children receive aid at the rate of $2 a week for each child; that hospitals receive aid at the rate of $1 a day for surgical, and 70 cents a day for medical patients; that no out-door relief be aided; that aid to various miscellaneous charities be cut down one-half next year and stopped thereafter; that separate accounts of disbursements of money received from public and private sources be kept; that payment be made only for the care of persons accepted by the Department of Charities as a public charge; that the institutions receiving aid be open to inspection; and that the Comptroller be empowered to recommend to the Board of Estimate the stoppage of aid to any particular institution whenever the public interest demands it.

Isaac Stern, Vice-President of Mount Sinai Hospital, informed the Board that his institution asks for the same amount for next year as it received this. When asked if he had any objections to the Comptroller's suggestions he answered: "Not at all. By the Comptroller's plan we would get 70 cents a day. At present we get 40 cents a day." At this the Mayor opened his eyes, and he wondered why 40 cents was not sufficient.

The Comptroller also offered a resolution, to which the Board assented, by which the accounts of all charitable institutions receiving public moneys shall hereafter be so kept as to show the receipts and expenditures of public moneys separately from the other funds of such institutions, and that all institutions shall keep an exact record, to be corrected from time to time, in a form to be approved by the Comptroller, showing the addresses of the parents, guardians, or nearest relatives of inmates, and other information designed to facilitate inquiry into their financial ability to provide for such inmates.

CORRESPONDENCE.

PUERTO RICO IN TIMES OF PEACE.

[From a Special Correspondent.]

YABUCOA AFTER THE HURRICANE—REVOLTING CONDITION OF THE INJURED—PLUCK AND PERSEVERENCE OF AN AMERICAN MEDICAL MAN—SHIFTLESSNESS OF THE NATIVE PEURTO RICANS.

San Juan, Peurto Rico, October 5, 1899.

It may probably be of interest to give a few particulars of an experience I have had recently in the district of Yabucoa, Peurto Rico. It will be remembered that this section felt the full force of the hurricane, and that Yabucoa was the only town on the island that was totally obliterated; therefore, the need for help was urgent, especially in the line of medical assistance.

Responding to an appeal from the Board of Charities for medical volunteers, a few days after the storm I found myself where the town had been. One building alone, a church, was standing, and it had been turned into a hospital for the large number of wounded. It must be borne in mind that this so-called hospital was merely a shelter, and an imperfect one at that, every door having been carried away, and part of the roof badly damaged. I found the following horrible condition of things: More than ninety wounded men, women, and children were lying promiscuously on the stone floor. No attempt had been made to separate the sexes, and there was absolutely no provision for the relief of natural wants As there was practically no medical attendance, and actually no medical supplies, the wounds were almost universally in a condition that no young medical man is ever likely to have seen. Fancy the state of the floor as a result of scores of sloughing, stinking wounds, and the solid and liquid evacuations of a hundred people!

It was enough to discourage a man, but something had to be done and that quickly. First I separated the sexes, and made some kind of provision for sanitary needs, and had thorough cleansing and disinfection of the floor carried out. Next in order came the work of examining and diagnosing the injuries, most of which were severe, and many of the most ghastly description. The scalp wounds were unusually horrible, as no suturing had been done, and every wound was widely gaping, often to the extent of several inches. Compound factures of the leg and arm were very numerous, and of these some were of such a nature that amputation was the only resort. There were examples of almost every conceivable surgical injury to be

found in the crowd, and for the moment I almost despaired of being able to do anything of consequence with the limited appliances at my disposal. However, I made the best of it; turned the organ gallery into an operating-room, the space inside the altar-rails into a dressing-room for those able to walk, and the altar itself was converted into a table for the bandages and the other surgical appliances. With the aid of two or three volunteer assistants every wound was thoroughly irrigated with bichlorid-of-mercury solution, and dressed with carbolized and borated ointment. Such wounds as were suitable were sutured, and others fixed with adhesive plaster and bandages. Splints were improvised from various materials, and all factures properly set, to the immense relief of the unfortunate patients.

Although I had gone to Yabucoa solely with the intention of offering my services to the local medical men, I found myself unexpectedly placed in the position of surgeon to a military hospital, and at once determined to run the concern on purely military lines. My former army experience made this easy, and in less than a week the hospital was one in reality, and running like clockwork. A kitchen was extemporized from some of the débris, closets were built for men and women, and the feeding of the patients carried out on business lines. The most rigid discipline was necessary, and was strictly enforced, for otherwise any decency or order would have been impossible. Fortunately I was allowed a free hand by the local authorities, and my word was law. For the first few days the work was cruelly severe, but I afterward obtained the help of two Hospital Corps men, and my burden was greatly lessened. Of course antiseptic surgery as commonly understood was impossible, and we could only trust to the greatest possible cleanliness as a substitute; but in spite of the imperfect asepsis and the abominable filth of the patients and of their clothing, the results were really remarkable, and healing progressed in every case almost as rapidly as if the environments were ideally perfect. Only two deaths occurred from wounds after I took charge, one being in a case of secondary amputation of the thigh in a young woman five-months' pregnant. She did well for ten days when she miscarried and died the next day in convulsions. The other case was that of a young man whose knee-joint was literally smashed to atoms and who was dying of septic fever when I first saw him.

Even the worst cases of compound fracture did well under the simplest treatment, and I attribute much of the remarkable result to the fact that the patients were living practically in the open air. Besides this, they were receiving more and better food than they ever had in their lives, and to this fact great weight attaches. Rice, beans, and coffee comprised the bill of fare for the great majority, milk, eggs, etc., being issued to a few special patients. A quantity of different foods was sent me, but, strange to say, none of the patients would touch any of them. Oatmeal, Boston beans, corned beef, canned tomatoes etc., were valueless in their eyes, and I had to trade these off in the town for coffee or other suitable articles. I may call attention to two striking features in the character of the Puerto Rican of the poor class: one is the absolute indifference to the suffering of others; the other is a total absence of a sense of decency or modesty. Nothing but the utmost severity enabled me to keep under control their bestial impulses, but one or two public examples gave them to understand that they had at least to conform to civilized ideas. On the whole the character of the Puerto Rican is a singularly unlovely one, and any one expecting to find in them the sweet and gentle traits so persistently attributed to them by well-meaning people who don't know them will very quickly be disillusioned. The lower classes are universally immoral, or rather unmoral, are indescribably lazy, and will steal anything not too heavy to lift. Even my instruments were not sacred in the eyes of the people in whose service they were used, and I lost a number of them. Rations were stolen at every point, and to such an extent had laziness been cultivated by the lavish food distribution that it was impossible to get any work done even for fair wages. The ladies of Yabucoa had to do their own washing, as the laundresses were perfectly content to live in idleness at Uncle Sam's expense just as long as he did not object. Every intelligent man is delighted at the prospect of an early stoppage of rations in the sugar district, for he well knows that there is not the most remote chance of any one dying from starvation except as a suicide. In the coffee districts relief may be required for some time to come, but in districts like Yabucoa and Maunabo the need for relief has happily passed away.

In conclusion I wish to express my hearty thanks to Colonel J. V. R. Hogg, U. S. A., President of the Board of Charities for the prompt and liberal way in which he answered my demands on him. Also to Captain E. Swift, commanding officer of the district, and to Assistant Surgeon Russell, U. S. A., for every moral and material assistance that could be afforded. But for such aid my work would have been a failure, and I am anxious that a full share of the credit should be given where it belongs.

W. F. SMITH, M.D.

OUR LONDON LETTER.

[From Our Special Correspondent.]

OPENING OF MEDICAL SCHOOLS—OPIUM IN THE ENGLISH FENS—POST-MORTEM REVELATIONS OF SYPHILIS—IMAGINATION IN MEDICINE AND IN MARQUISES—SANITARY SCANDALS AMONG HOP-PICKERS—SNAP DIAGNOSIS OF BULBAR PARALYSIS—SELF-POISONING BY A DOCTOR—HEREDITY AND DRUNKENNESS—ALLEGED "BRUTALITY" OF DR. LAMONT TOWARD THE BODY OF A PAUPER—BARBAROUS COWARDICE IN SOUTH UIST EPIDEMIC.

LONDON, October 8, 1899.

WITH the opening of the great hospital medical schools last week the London medical "season" began. With a depressing lack of originality, all of them opened at the same hour of the same day, and on a Monday at that. Instead of avoiding the first day of the working-week as a point of departure, as has become, for obvious reasons of convenience, the unwritten law of all our American medical colleges, they seem positively to pre-

fer it. The smallness of the country and shortness of the average railway journey may have something to do with it, but the iron hand of custom has probably more. It's a sort of inheritance from boyhood's hour, and the tradition of the boarding-school which invariably began on "Blue Monday."

Nearly all of the schools usher in the year with a solemn Address, delivered by some celebrity, if possible from their own alumni, and several of them have the curious habit of holding their annual Dinner (this word is always to be spelled with a capital D in public, in England) the evening following this cheerful ceremony, just such a "class reunion" as we hold at the other end of the year. Every medical school (a "college" in the insular tongue is an examining body) in London is an appendage to a hospital instead of the hospital being an appendage to the school, as it should be. Practically, no one can become a teacher in any of the schools, except in the purely scientific branches in some cases, without first getting on the staff of the hospital, so that the choice of lecturers and teachers is largely controlled by the lay governors of the hospital, many of whom are not merely ignorant of the needs of medical teaching but even unfriendly to its interests.

A curious item has been going the rounds of the London papers in regard to the opium habit in England. It is alleged that in several of the rural districts the regular use of opium in moderate doses is not uncommon. Certain it is that it is the favorite article chosen by Oriental sailors for smuggling into London. The region most addicted to its use is said to be the fen district of Lincolnshire and Cambridge. And this may have a distinct pathological basis, inasmuch as this region was the last in England to get rid of ague by the draining of its famous fens, or huge swampy levels, and opium is esteemed highly the world over by the native populations as a prophylactic against malaria.

A case illustrating both the worthlessness of even utterly negative evidence in conditions of suspected syphilitic origin, and also the dramatic way in which medical "murder" like the other variety "will out" was related by Mr. Jonathan Hutchinson at his last clinical demonstration at the Polyclinic. A number of years ago he was consulted by an intelligent farmer for an attack of ophthalmoplegia externa. The case was an extremely severe one, every trace of contractile power in all the recti muscles being lost so that the eyes were as immovably fixed as those of a graven image. The usual syphilitic origin was suspected, but the patient absolutely denied it, and the most searching inquiry and examinations failed to discover a shred of evidence of venereal disease. The man was even asked to bring his children up for examination, and brought with him two fine, well-grown healthy lads, without a trace of hereditary taint, so that Mr. Hutchinson finally believed his statements and had to confess that ophthalmoplegia externa was sometimes of non-specific origin. A year or two later the patient died, and a post-mortem was secured, but nothing was found to throw any further light on the question of causation. Several years passed and the lecturer had almost forgotten the case when one day a physician in the north of London wrote to him saying that he had just seen the daughter of this farmer professionally, and as she seemed to present distinct suggestions of hereditary syphilis, he, remembering Mr. Hutchinson's interest in her father's case, thought he might like to see her. Upon examination she was found to present a typical picture of inherited disease, in teeth, lips, and nose, and her threatened eye-trouble developed into a severe attack of interstitial keratitis.

It turned out that the unfortunate girl was the first-born of the family, and several years older than the boys seen by Mr. Hutchinson, during which interval the disease had apparently run its course past the infective stage.

England is having a perfect plethora of sanitary congresses. The echoes of the national gathering at Southampton have scarcely died away, and now there has been another in session, the Royal Institute of Public Health, at Blackpool, near Liverpool. This was opened by no less than a son-in-law and "poorer half" of royalty, the Marquis of Lorne, husband of the Princess Louise and the late Governor-General of Canada. His speech was a marvel of ingenious credulity, as might have been expected of a son of the Duke of Argyll. He took for his subject the influence of the imagination in disease and drew on his own liberally.

The wireless electric current has at last explained telepathy, thought transference, "absent treatment," etc., and ere long perchance the "directing will" of the physician will be all that is needed, and his actual appearance at the bedside no longer required, except perhaps in surgical cases, and even here healing might be hastened and antisepsis aided, by inducing such thoughts as would support the body and lead to recovery! Fancy thought as an antiseptic! Some of it is sterile enough, in all conscience, but we had never thought of it as a germicide!

Not only are the modern "mysteries" of thought-healing, etc., to be explained by wireless telegraphy—how the good Lord—Lorne only knows — but the marvels of the Ancients, also, Egyptian magic in particular. "What," asks our Marquis dramatically, "was the secret of Egyptian magic?" The same old secret, that of the priests in all ages, how to fool the people and get a fat living out of the process. Some delighted idiot is sure to hail each new discovery "electricity," Röntgen-rays, Marconi current, as "explaining" something that never happened or demonstrating the truth of some exploded humbug.

It is alleged that if the plague were to gain a footing in England there is one place on the Island where it would find itself thoroughly at home and in surroundings as superbly filthy as the houses of the Middle Ages, and this is the part of Kent now inhabited by the dense swarms of hop-pickers from the London slums. Many of these camp in wretched hovels, unlighted save by the door, with no furniture and nothing but straw on the earth floor to sleep on. As the dens are only used for a few weeks once a year the farmers will not trouble to provide anything better, and such is the crowding that from six to ten of the pickers will sleep in a cubby-hole not more than

ten feet square. And the straw, like the rushes of the Middle Ages, is made to cover all sorts of offal and excreta. To tolerate this state of affairs is a disgrace to England's sanitary reputation.

A new diagnostic symptom of bulbar paralysis is credited to Dr. Hughlings Jackson: "If the patient comes into the room with a slate in one hand and a large pocket handkerchief in the other, then you may diagnose bulbar paralysis at sight," and the touch is a most graphic one, for usually, all these unfortunates as soon as the disease is well advanced are obliged to use a slate for conversation purposes on account of the involvement of the laryngeal muscles, and a handkerchief constantly to soak up the steady drip of saliva from their hanging lips.

The late Inebriates Act, which was regarded as such a long step in advance, and for which the late Dr. Norman Kerr and many other medical advocates of temperance reform worked so hard, is proving a dead letter. And this by a most senseless failure on the part of the government or rather a succession of them. The Act authorizes magistrates and judges to commit habitual drunkards to reformatory institutions for a term of years. As first drawn it contained no provision for either the expense of the prosecutions or the support of the inebriate while in the reformatory. This was remedied at the next session of Parliament, but no provision made for building reformatories, only permission given to utilize those already existing. As those "already existing" prove on investigation to have room for barely one-fifth of those convicted so far, the Act is simply "hung up," and the magistrates are refusing to commit under it.

A most singular and tragic fatality has recently occurred in the profession here. A young physician at Eastbourne, Dr. John Dick, was fatally poisoned with a dose of his own medicine. It is proverbially unsafe to compound one's own prescriptions, but seldom is it followed by such bad results. The doctor was consulted by a patient, and deciding that she needed a tonic, he prepared and sent her a bottle of medicine. Next morning the patient took a dose of the mixture, and such severe cramping pains followed that she became alarmed and called in another physician. Later in the day Dr. Dick called at her house and she told him what had happened. Not unnaturally annoyed he declared that it certainly could not have been the medicine, and to prove it he would take some of it himself. This he did and in a few minutes repeated the dose. But before he could reach his house, a mile away, he was in strychnin convulsions, and though with great coolness and courage he called for his own stomach-pump and emptied his stomach, in spite of this and the utmost efforts of three of his colleagues, he died in a few hours. The tonic was found to contain a large amount of strychnin, which the unfortunate young fellow had probably put in, in mistake for some other white powder, or by one of those curious fits of absentmindedness to which all are liable added to the mixture twice or three times instead of once. The only moral appears to be, "don't dispense your own medicines, or if you do never use your strychnin in powder form but always in solution." The wonder is that so few accidents of this sort happen.

Dr. Archdall Reid has done a real service by his recent paper on "Alcoholism and Heredity," in calling the attention of the profession to the undoubted but often ignored fact that nations do not tend to become more drunken as time goes by but rather the contrary. Nearly all the nations of antiquity were at one time intemperate as their records show, and then became extremely moderate in the use of alcohol, as for instance, the Jews and the Egyptians are at the present day. All modern nations which have had the vine for long periods are now sober and even abstemious, as the Spaniards, the Italians, and the Southern French. Only we recent barbarians of the North who have had plenty of liquor for hardly five hundred years are now drunken. And we too in time shall become temperate, and useless, like the rest. Drunkenness is not inherited, first, because it is an acquired character, and second, because it is an unfavorable variation which tends to promote the elimination of those in whom it occurs.

The more the *cause celebre* of Dr. Lamont is looked into the more astonishing it becomes. It will be remembered that some months ago he as parish-doctor of South Uist, on the West Coast of Scotland, was suddenly arrested upon the flimsy charge of having issued vaccination certificates to children whose arms showed imperfect scars, kept in jail two or three days and dismissed in disgrace from his position, all by the Parish Council. So outrageous was the injustice of their course that the matter was actually brought before Parliament which passed a scathing vote of censure and promised substantial compensation to Dr. Lamont. Thereupon the Council suddenly changed its ground and announced that he had been dismissed on account of brutal and revolting treatment of the body of a pauper in preparing it for burial, dragging it out of the house by a rope tied to one leg, thrusting it naked into its coffin, and inflicting other indignities. This seemed so incredible that one's first thought was that the Parish Council had gone crazy, but now comes the report of the investigation committee of the Local Government Board and turns the tables with a vengeance. The body in question was that of an old woman who died in an epidemic of typhoid which had so terrified the cowardly natives that neither health officer, nurse, or relatives could be induced to go near many of the victims in their last days, and Dr. Lamont had been obliged to play the superhuman rôle of *physician, nurse, and undertaker to all of them.* It was the public and shameful rebuke which he had thus given the cowardice and inhumanity of the islanders and their officials which got into the papers and brought down upon them the severe rebuke of the Local Government Board that was the real cause of the reckless rancor with which the Parish Council had pursued him.

There was bitter truth in their description of the terrible coffining scene, but it did not cut Dr. Lamont. The fact simply was that out of fifty or more people assembled not one could be induced to go within fifty yards of the house, except the joiner who had made the coffin, and who had refused to touch the body, so that as the corpse was a

heavy one, the only thing Dr. Lamont could do was to convey the coffin himself to the door, get out the body by a rope which his semi-assistant was willing to pull on, though he refused to touch the corpse, rolled it as best he might into the coffin, and then nailed the lid down himself as his joiner-assistant had fled by this time.

Then and then only he succeeded in shaming the crowd of cowardly savages, who, according to the Parish Council's report had been "kneeling in prayer," that he might be forgiven for his brutal treatment of the corpse, into lifting the coffin by long ropes and carrying it to the grave. Really we think that by this time even the thick-headed barbarians at South Uist, must be beginning to realize that by prosecuting Dr. Lamont they have simply pilloried themselves to the shame of the country and world.

SOCIETY PROCEEDINGS.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Proceedings of the Twenty-fifth Annual Meeting, Held at Chicago, October 4, 5, and 6, 1899.

(Continued from page 512.)

MEDICAL SECTION.

DR. CHARLES T. MCCLINTOCK of Detroit, Michigan, in the Chair.

DR. MCCLINTOCK read a paper on

ENZYMES AND IMMUNITY

in which he deduced the fact that the enzymes are unorganized ferments and are directly responsible for immunity.

DR. L. H. WARNER of Brooklyn read a paper on

RECENT PHYSIOCHEMIC RESEARCHES AS TO THE PHYSIOLOGIC ACTION OF LECITHIN AND OTHER PHOSPHOROUS COMPOUNDS.

By means of numerous experiments he has demonstrated that the organic phosphorous compounds are tissue-builders, performing an important part in the tissue metabolism, especially in the causation of subsequent changes in the animal cells and controlling the formation of tissue. No abnormal conditions result if food contains a sufficient amount of lecithin, phosphocarnic acid and other phosphorous compounds. The most marked beneficial results follow their use and are, therefore, indicated in the treatment of all wasting diseases. Lecithin is always found in mother's milk, in lesser quantities in cow's milk, and rarely ever in the artificial infant's food, hence their inefficiency. Organic phosphates, lecithin and phosphocarnic acid are necessary in order to maintain perfect health. These salts are derived from any of the body tissues and especially from beef when they are to be added to any artificial foods.

DR. WILLIAM B. BURNS of Deckerville, Ark., read a paper on

SOME PHASES OF MALARIA.

The author was of the opinion that malarial and typhoid fevers are never present in any one individual at the same time; furthermore, he made the positive statement that any fever which does not yield to the proper administration of quinin is not malarial, and if typhoid has been excluded by diagnosis, the condition is due to an auto-intoxication. He cited one case of malaria in which the patient developed marked purpura hemorrhagica and hemoglobinuria which responded readily to the use of quinin and tincture of the perchlorid of iron. Another case simulating pneumonia, with the hematazoon present in the blood of the patient, however, also yielded to alterative treatment and quinin. Symptoms of abnormal renal function, such as albuminuria and hemoglobinuria, so often found in malarial cachexia, completely disappeared after the use of quinin. He has not been able to demonstrate the malarial organism in any stage of development in the mosquito, although he has found an abundance of pigment, but not of the malarial variety. He administers quinin in from 3- to 5- grain doses, every three hours, for from twenty-four to forty-eight hours, beginning at the commencement of the decline of the fever, as the plasmodium at this time is less capable of resistance and phagocytosis is at its best. In malarial cachexia quinin should be administered in 3- to 5-grain doses three times daily, preferably on a full stomach in order to avoid tinnitus and nervousness. Relapses may be prevented by 10 grain doses on the fifth, sixth, and seventh days, given at bed time.

DR. D. H. WARNER of Brooklyn remarked that Dr. Burns was bold in saying that any fever which does not yield to quinin is not malarial. Quinin is a poison only to the full-grown germ, but does not kill the spore, consequently if given for thirty to forty days it kills the germ but the spore escapes, and it may lie dormant for years, until a favorable moment arrives for it to develop and give rise to a paroxysm. The amount of chlorids in the blood constituents and in the blood-plasma exceed the total amount of sulphates and chlorids. The parasite attacks the red blood-corpuscle and destroys it. Now, if there is a superabundance of chlorids the corpuscles are not destroyed; therefore, one must administer chlorin, and it will destroy not only the organism but its spores as well.

Patients coming from the hot-beds of malaria were dosed with quinin up to 40 grains at a time, and still the parasite grew, but as soon as the patients were put under treatment with quinin simplex plus chlorin, or chlorin plain, there was neither organism nor spore left. The speaker thought that chlorin is one of the most important factors in the treatment of malaria, and it may be used alone or with quinin plain, but not with the sulphate.

DR. CHARLES L. MINOR of Asheville, N. C., read a paper, entitled

THE SUCCESSFUL TREATMENT OF A CASE OF GRAVES' DISEASE AS AN AUTO-INTOXICATION.

After reviewing the various theories of the etiology of Graves' disease, and especially the thyrogenic theory, he reported two cases in which he treated the patients on the supposition that the disease is dependent on an intestinal auto-intoxication. A positive cure resulted in one

of them. He based his belief on the constant presence in excess of ptomains in the intestine and their violent effects on the system, and especially on the gastro-intestinal tract. Treatment consisted of a strictly regulated diet, in which the starches, sugar, and table dainties were cut down to a minimum or entirely eliminated; rest at first, followed by carefully graded exercise, and good hygiene. Medication consisted of the administration of lactate or albuminate of iron, antiferments at meal-time, an occasional mercurial purge, and intestinal lavage, to which he has given the unique name of "liver wash." Large quantities of water, at a temperature of 102° F., were used and were retained half an hour. This increased the liver activity, and all the emunctories were stimulated, thus effectually eliminating all toxins. Lavage was continued at intervals for more than a year, and in one case was followed by an apparently complete return to health except for a slight almost imperceptible prominence of the thyroid. The second patient, while still presenting objective symptoms, is entirely free from any subjective symptoms.

DR. GEORGE W. WEBSTER of Chicago remarked that the treatment at present is based on an increased activity of the thyroid gland with altered secretion, which acts on an unusually susceptible nervous system. He referred to a reported case in which the patient had been treated by injections of bile to the amount of 100 grains a day on the supposition that bile acts as an antiseptic, a cure resulting. At the same time he called attention to the fact that nearly 50 per cent. of these patients get well without any treatment whatever, others by surgical means, and still others by means of various medicinal agents. This does not furnish any clue, however, as to the real cause for the increase and perversion of the the thyroid activity.

DR. HUGH T. PATRICK of Chicago did not agree with Dr. Minor in that the poisons generated in the intestinal tract and which are absorbed from it play any part in the causation of Grave's disease. These noxious substances from the bowel are etiologic factors only in so far as is alcohol, syphilis, over-exertion, etc., in any other disease, and to draw conclusions from only two cases is a practice which is not to be recommended in medical research. Proper care must be bestowed on the intestinal tract in any disease and the numerous investigators on this subject have as yet not been able to adduce anything which might be considered as a positive proof that auto-intoxication of the intestinal tract can have any bearing as a cause of Graves' disease.

After briefly referring to the various methods of treatment of this condition, the speaker mentioned one case in which the patient had been subjected to every known treatment without avail and was finally taken home in a very serious condition. All treatment was discontinued and inside of three months the patient had perfectly recovered.

DR. HOMER M. THOMAS of Chicago then read a paper on

THE TREATMENT OF PULMONARY TUBERCULOSIS BY THE INHALATION OF ANTISEPTIC NEBULÆ.

Nebulization is supportive only, but is of great value as a secondary factor in the treatment of tuberculosis. It aids in establishing a barrier around the tubercular area by stimulating cellular structure to resist the germs and their toxins. The beneficial effects of nebulization are, first, control of cough; second, relief of dyspnea; third, intimate contact of the nebulæ with much of the respiratory cavity; fourth, inhibition to the extension of the tubercular foci.

The cough is best relieved by tincture of stillingia and beechwood creosote with a lanolin base; for dyspnea expectorant combinations with carbonate of ammonia, syrup of squills and prunus Virginiana with lanolin for a base. Various other remedies were mentioned, and special attention was called to formalin in from 40- to 20-per-cent. solution, depending upon the patient's ability to bear the use of a weak or strong solution. The nebulæ penetrate wherever the air does and by means of phagocytosis are conveyed through the blood and lymphatics to the tubercular overgrowth. While the nebulæ do not reach the encapsulated tubercular area, they inhibit extension of the disease. The atmosphere of the room as well as the respiratory passages must be saturated with the medicament. Clinical experience having proved the value of vaporized medicaments in tuberculosis further trial and investigation is justifiable.

DR. T. B. GREENLY of Meadow Lawn, Ky., commended the paper, and stated that for some time past he had been using a mixture of formaldehyd and ammonia with the most salutary results. The ammonia enables the patient to bear more of the formaldehyd vapor, and the system thus becomes immune more rapidly to the toxins of the tubercle bacillus. He has lately been using urotropin, a combination of formaldehyd and ammonia, and inside of ten to fifteen days it thoroughly disinfects the sputum so that it is absolutely free from bacilli. This treatment, with the addition of tonics, increases the patient's appetite, the cavities heal more rapidly, and a speedy recovery results. Urotropin acts equally as well in bone tuberculosis. In phthisis he also uses iodin and theobromin with massage twice daily so as to secure the action of the iodin in the circulation without imposing on the stomach. Perfect satisfaction has followed this treatment in his experience with more than 100 cases of tuberculosis.

DR. CHARLES L. MINOR called attention to the fact that a combination of formaldehyd and ammonia completely destroys the action of the former, and therefore the good results which Dr. Greenly obtained could not have been due to the inhalation of formaldehyd. He expressed his gratification that Dr. Thomas regarded the inhalation of medicated vapors as an adjuvant only. In his experience patients who inhale simply the air around them do as well as though medicated vapors have been used, and pure air has the advantage of not producing any irritation whatever.

DR. J. M. PATTON of Chicago congratulated the essayist on his conservative view of the therapeutic effects of inhalation of medicated vapors. Neither inhalation nor the injection of different oils into the respiratory tract have given any definite results as far as a cure is

concerned, which really cannot be expected in view of the existing pathological changes. Councilman has demonstrated a collateral zone of congestion around the tubercular area, which does not contain tubercle bacilli, but has sufficient circulation to admit of absorption and poisoning, and these areas prevent anything from reaching the tubercular area itself. The failure of serum-therapy demonstrates the futility of reaching these areas through the circulation; nevertheless, beneficial results follow the use of these measures as they lessen the cough, diminish bronchial secretion, and improve the respiratory function. In chronic bronchitis great good follows the use of vaporization, as anything that will lessen bronchial secretion will correspondingly lessen the danger of secondary infection from the tubercular areas.

As to the possibility of considerable good arising from the absorption of the vapor through the bronchial membranes into the system, the speaker thought Dr. Thomas was illogical.

Dr. Thomas expressed his gratification at hearing of the good results which Dr. Greenly had had with formaldehyd and ammonia. Inhalation is advocated only as an adjuvant, the only value, if none other, being in the deep breathing which it excites and the psychical impulse created in the use of nebulæ, which is not the case when air is used. This effort at deep breathing is very much to be desired in the impaired respiration of tuberculosis.

Dr. William O'Neal Mendenhall of Richmond, Ind., read a paper, entitled

DO WE NEED TO THINK?

He presented a report of a peculiar case of hereditary nervous diarrhea in a young man indirectly caused by a fall of the mother producing a fracture of the coccyx. Treatment consisted in the administration of strychnin to act as a nerve tonic, and ergot to act on the circular muscle fibers of the bowel, regulation of diet, and hygiene. A complete recovery resulted.

Dr. A. M. Osness of Dayton, Ohio, read a paper, entitled

THE EVILS; THEIR CAUSES AND THE REMEDY THAT WILL EDIFY MEDICINE IN THE UNITED STATES.

The evils were held to be "mushroom schools," antagonistic pathies, overcrowding in the profession, lack of scientific spirit among medical teachers, undue ostentation, and unscrupulous intrigues in the profession. The causes of the evils are, first, paltry remuneration for professional services; second, the fallacy of a profitable notoriety. The author suggested as a remedy the regulation of schools and professorships, obligatory interneships of all graduates, conditioning diplomas revocable for unprofessional conduct, charity hospitals to be under the supervision of medical men, and the encouragement of strictly prescription pharmacies.

Dr. E. B. Montgomery of Quincy, Ill., presented a paper, entitled

TWO CASES OF TYPHOID FEVER WITH UNUSUAL COMPLICATIONS IN VERY YOUNG CHILDREN,

which will appear in full in a subsequent issue of the Medical News.

Dr. Fenton B. Turck of Chicago then read a paper, entitled

FURTHER OBSERVATIONS ON THE TREATMENT OF THE ABDOMINAL VISCERA THROUGH THE COLON.

The paper was a very interesting one, and the author dwelt particularly on the importance of colonic lavage in the treatment of all diseased conditions of the bowel. He explained his method very fully, illustrating it by a series of experimental reports.

Dr. William Barclay of Pittsburgh expressed himself as being very much opposed to the indiscriminate injection of large quantities of water into the bowel. He was pleased to learn that Dr. Turck uses only a small quantity of water, as large quantities in his experience have proved to be injurious. He especially condemned the use of syringes as they destroy the muscular tone of the bowel, and a constipation is set up which is almost irremediable. Cathartics, too, are unpleasant to use, but cathartic medication in conjunction with regulation of diet is to be recommended.

Dr. T. Wertz of Evansville, Ind., said he knew of no reason why the bowel should not give out the same as any other organ. Many persons are incapacitated for business on account of constipation, and from the constant use of cathartics their stomachs have become irritable, so that they are obliged to resort to water enemas. In cases in which there is a paralysis of the bowel or insufficient peristalsis water enemas are the best agents to make use of. Many lives have been prolonged by the use of food enemas when the stomach is non-retentive and needs a rest.

Dr. C. J. Lewis of Chicago raised the question as to whether the effect of very hot and very cold water is not the same. Peristalsis is dependant upon the stimulation of Meissner's ganglia, and the extremes of temperature may produce a paralysis of it.

Dr. H. M. Thomas of Chicago said that there is a general agreement at the present time that the saprophytic bacteria in the intestinal tract are largely the cause of appendicitis. Colonic lavage facilitates diagnosis, as one needs only to unload the bowel of its accumulated bacterial infection in order to make possible more accurate palpation of the appendix, and thus determine its condition of inflammation.

Dr. Thomas J. Schuell of Parnell, Iowa, for many years believed himself to be the originator of colonic lavage in the treatment of appendicitis. The usual idea is to unload the cecum, but by using water at 110° F. it will not only unload the cecum and colon, but at the same time will excite peristalsis of the cecum as well as of the appendix. Many cases of appendicitis are due to impaction of the colon, producing paralysis of the muscle fibers and the formation of a ball-valve action of the cecum, and by means of a slight shock, such as jumping, the fecal matter is forced into the appendix, bacterial decomposition sets in, and inflammation, necrosis, and pus formation occur. Colonic flushings should be administered every three or four hours during the first twenty-four to thirty-six hours, and after four or five flushings beneficial results are very apparent.

DR. TURCK, in conclusion, emphasized the value of using the colon as a means of treating the abdominal viscera. It is not the quantity of water so much as the temperature which procures the characteristic reaction. Hot water draws out the water from the intestines, and the original injected quantity is thus increased. The temperature raises the body temperature two or three degrees, and, like cold, is a vasomotor stimulant. Fecal matter is a normal stimulant to peristalsis, and the same effect can be produced by artificial stimulants. This can be done by means of small quantities of water. When it is desired to produce gymnastics of the blood, hot air is used, and it acts on all abdominal viscera at the same time as a stimulant.

DR. W. V. ANDERSON of Toledo, Ohio, reported

A CASE OF COMPLETE HERNIA OF THE PREGNANT UTERUS,

which will appear in a future issue of the MEDICAL NEWS.

DR. JOHN PUNTON of Kansas City, Mo., then read a paper, entitled

PATHOGENESIS OF FUNCTIONAL NERVE DISEASES AND ITS PROPHYLACTIC INDICATIONS.

In the pathogenesis of nervous diseases heredity stands foremost, as the results of injurious living on the part of the parents are often transmitted to the offspring. Pathological changes are produced in the blood which act on the nervous system in such a manner as to cause actual disease. In certain nervous diseases the red-blood corpuscles disintegrate and the plaques are much multiplied. Good diet and tonics tending to improve the system and the condition of the blood speedily restore health. In this connection the study of sociology ought to claim earnest attention as it is a most important factor in the causation of nervous diseases.

DR. PHILIP ZENNER of Cincinnati, Ohio, followed with a paper, entitled

THE ASSOCIATION OF HYSTERIA WITH ORGANIC DISEASES OF THE NERVOUS SYSTEM.

Organic diseases of the nervous system often follow hysteria, but are often obscured by the hysterical manifestations. Diagnosis is facilitated by noting the personality of the patient, relation of symptoms to organic diseases, and the clinical picture presented. Prominent among these are hysterical temperament, stigmata of disease, anesthesia, paralysis, contractures, and visual changes. In hysteria special attention must be given to globus hystericus—concentric contraction of the visual field. In organic disease the alteration of the deep reflexes, the rigid pupils and the action of regeneration must be noted.

DR. ALBERT E. STERNE of Indianapolis, Ind., then read a paper, entitled

TEMPERAMENT AND ITS INFLUENCE.

He divided temperament into the acid, alkaline, and neutral variety, each one of which causes diseases peculiar to itself. This study is still in its infancy but is one of vast importance in the causation of diseases of the nervous system and is deserving of further investigation.

BACTERIOLOGICAL DIAGNOSIS IN ALL DISEASES OF THE CONJUNCTIVA AND CORNEA

was the title of a paper read by DR. J. O. STILLSON of Indianapolis, Ind. Water currettage was advocated in certain ulcers of the cornea. A small stream either of sterilized water or antiseptic solution is thrown against the cornea with sufficient force to dislodge the necrosed epithelium and clean out the ulcer. This method has been pregnant with the most salutary results in the hands of the author.

DR. WILLIAM F. BARCLAY of Pittsburgh, Pa., then read a paper, entitled

INTESTINAL AUTO-INTOXICATION; ITS PREVENTION AND TREATMENT.

The following conclusions were deduced: Daily evacuation of the bowels will prevent decomposition of matter in the intestines and the subsequent occurrence of auto-intoxication. Rectal injections of water, for the purpose of producing a bowel movement, or for cleansing the bowel, were not approved of, but cathartics were recommended, especially calomel, papoid, salines, saline mineral waters, cold baths, etc. Proper food at regular intervals is very important.

DR. JAMES H. TAYLOR of Indianapolis, Ind., then read a paper on

INDIGESTION IN INFANTS AND CHILDREN.

The causes of indigestion, such as improper food and over-feeding, were discussed in detail. Treatment should consist of washing out the stomach, ridding the alimentary tract of all irritating matter, and regulating the diet and time of feeding. Absolute rest was insisted on. Medicinal treatment is not so essential. Tincture of nux vomica and arsenite of copper should be given.

DR. R. ALEXANDER BATE of Louisville, Ky., then read a paper on

LITHIASIS.

After referring to the etiology and symptoms, he concluded by saying that the only proper treatment of this condition is the free use of salicylates and alkalies.

DR. A. H. CORDIER of Kansas City, Mo., in a paper, entitled

NEPHROLITHIASIS,

dwelt especially on the clinical diagnosis and treatment of this disease.

DR. DUDLEY S. REYNOLDS of Louisville, Ky., read a paper, entitled

THE THERAPEUTICS OF INFECTIOUS CONJUNCTIVITIS,

which will appear in a future issue of the MEDICAL NEWS.

A CONTRIBUTION TO THE STUDY OF LUNG REFLEXES,

was the title of a paper read by DR. MARION K. BOWLES of Joliet, Ill. Attention was called to the fact that examination of the lung should be made more frequently in cases which are clearly not of lung disease, for it often clears up the diagnosis, as some trifling cause

may excite reflex contraction of the fine muscle-fibers. This is especially important in life-insurance examination.

The Association then adjourned, to meet at Asheville, N. C., in October, 1900.

REVIEWS.

Progressive Medicine—Volume III. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, 440 pages, 11 illustrations. Philadelphia and New York: Lea Brothers & Co., 1899.

The third volume of this new periodical well maintains the high reputation of its predecessors. The diseases of the thorax and its viscera, including the heart, lungs and blood-vessels are reviewed by William Ewart, M.D., F.R.C.P., lecturer at St. George's Hospital and physician to the Belgrave Hospital for Children, London. Though the subject is a most hackneyed one he succeeds in giving it a very practical interest. His advocacy of the pleximeter instead of the finger in percussing, though he does not include the use of the hammer in his recommendation, is very interesting. His treatment of the whole subject of pleximetry wears a novel air. The practical points as to the use of the pleximetric bones, especially the scapula, which is seldom taken advantage of for pleximetric purposes, are evidently the result of careful personal study. He shows, too, the advantage that may be taken of the spleen as a pleximeter. When the stomach is distended with gas the "boxy" note that results over the area of the spleen because of its pleximetric qualities may be used to outline it quite as successfully as the usual dulness when distention of the stomach is absent. Auscultatory friction, as practised with the ordinary stethoscope, receives due notice. Farther on there is an interesting note on the treatment of coal-gas poisoning by oxygen inhalations. In one case in which the symptoms were very severe the patient's life seems to have been saved by this means. Whenever there were intermissions in the oxygen inhalations during the first few hours threatening symptoms recurred.

Skin diseases are reviewed by Dr. Henry W. Stelwagon. Two things seem of special interest in the chapter: one that the trend of medical opinion is setting toward definitely considering lupus erythematosus as in some way a manifestation of tuberculosis. If it is not directly due to the presence of bacilli, then to their toxins. Alopecia areata, the occurrence of patchy baldness, is now thought not to be always due to a single cause, but to represent in different patients often very varying pathological entities. At times they are due to neurotic disturbances; at times they are parasitic in origin.

Diseases of the nervous system are reviewed by Dr. Spiller. The neuron theory, which has been called into question by Nissl, is discussed and the points recently brought out in the controversy on the subject are indicated. A recent contribution to the function of the posterior column receives mention. According to this the posterior columns transmit the sensations of cold, touch, and pressure and of the so-called muscular sense, but not of the other sensory impulses. Paralysis from chlorosis, from typhoid fever, and from various spinal symptoms that develop after intense anemia, and especially pernicious anemia, are touched upon.

Dr. Richard Norris reviews obstetrics. The interesting phase of the work done during the past year in obstetrics has been the study of the toxemia of pregnancy and its relations to the complications of gestation, especially to the kidney troubles of pregnancy, to pernicious vomiting, and to eclampsia. For hyperemesis gravidarum the necessity for absolute rest in the recumbent position is insisted on, and the rest-cure, especially that feature of it which separates the patient from her friends, is suggested as the most likely remedy in milder cases. In severe cases subcutaneous normal saline injections are advised, first, to supply the liquids so necessary for the tissues; second, to aid in the elimination of toxins; and third, to increase vascular pressure and give better blood-supply to the brain.

On the whole the book forms an excellent mirror of up-to date practice in the subjects treated.

Cyclopedia of the Diseases of Children, Medical and Surgical. Vol. V. *Supplement.* Edited by William A. Edwards, M.D. Illustrated. Philadelphia: J. B. Lippincott Company, 1899.

The editor of this book deserves great credit for the discrimination shown in the selection of contributors and for the thoroughness with which the subjects have been handled. It is a supplement to Keating's masterpiece and is up to date in every respect.

Ballantyne writes on "Congenital Disorders," "Diseases of the Newborn," and "Congenital Skin Diseases;" Rotch, on "Feeding in Infancy;" Barlow, on "Scurvy;" Osler, on "Cretinism;" Henry Morris, on "Surgical Diseases of the Kidneys;" Howard A. Kelly, on "Diseases of the Ovaries and Tubes;" Sachs, on "Amaurotic Family Idiocy"; Snell, on the "Hygiene of the Eye;" Jacobi, on "Pulmonary Tuberculosis;" and Cheadle on "Rheumatism." The wide range of the book will be shown by mentioning the following papers:—"The Mortality of Early Life," by Brothers; "Pica," by Small; "Swimming, Dancing and Bicycling," by Young and Spellissey; "Intestinal Bacteria," by Ely; "X-Rays in the Surgery of Children," by Keen.

The advances in our knowledge of the infectious diseases are all taken cognizance of except meningitis, on which subject, to our surprise, there is no contribution. While we believe the editor is wise in saying that "the majority of sick children are treated by the general practitioner," and "it has been our endeavor to hold pediatrics allied to general medicine," we cannot help remarking that a few of the articles are written too much from experience with adults. We also believe that certain articles could well have been omitted as belonging in books on hygiene, clinical methods, or the general text-books on surgery. Thus, for example, we do not see the necessity for the article on the hematocrit. Some of the papers are too long, and some repeat much of what is in the or-

iginal five volumes, but this is unavoidable, because, otherwise, the articles would scarcely be readable. The illustrations are numerous and very successfully executed. We must draw special attention to those in the articles on "Feeding," Bicycling," Cretinism," "Diseases of the Blood," "Appendicitis," the "X-Rays," and the plates showing the changes in the fundus in amaurotic family idiocy. The last is taken from Frost's Atlas; in a new edition it would be wise to have it in colors.

All in all, the volume is a most welcome one. It is not only a supplement to Keating's Cylopedia, but to every book on children's diseases and internal medicine.

LEITFADEN FUR DEN GYNAEKOLOGISHEN OPERATIONSKURS (ELEMENTS OF GYNECOLOGICAL OPERATIONS). VON DR. E. G. ORTHMANN, Berlin. Leipsic: Arthur Georgi, 1899.

ONE does not frequently find in a work as small as this the elements of completeness and thoroughness which characterize Dr. Orthmann's book. This is not surprising, however, to one who has taken with Dr. Orthmann the course in gynecological operations which is outlined by the author. It is complete and modern and embraces all operations in the specialty which one is called upon to perform. The book reflects the practical work and by means of the numerous and well-executed cuts makes the details of the various procedures easy of comprehension. To the student or practitioner who is familiar with German this little work can be heartily commended, especially since it represents the methods of Professor August Martin, one of the most famous and original operators among German gynecologists.

AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. NEWMAN DORLAND, A.M., M.D., Assistant Obstetrician to the Hospital of the University of Pennsylvania. Second edition. Philadelphia: W. B. Saunders, 1899.

THE present edition of this dictionary does not differ from its predecessor except in the addition of newer words which have found their way into medical nomenclature. Although it does not pretend to supplant larger works of a similar nature, it certainly is very complete and fulfils it purpose admirably. It is a very complete little medical lexicon. Its attractive binding and thumb-index adds to its appearance.

MANUAL OF BACTERIOLOGY. By ROBERT MUIR, M.A., M.D., F.R.C.P., Edinburgh, Professor of Pathology in the University of Glasgow; and JAMES RITCHIE, M.A., M.D., B.Sc., Lecturer in Pathology, University of Oxford. Second Edition. New York: The Macmillan Company, 1899.

A LARGE number of smaller works on bacteriology have made their appearance during the past ten years, but the one under consideration easily ranks with the very best. The subject is presented with an accuracy of statement that will undoubtedly commend its adoption as a student's text-book. Much attention has been given to a lucid description of laboratory technic, the preparation of culture media, and microscopic methods in general, and the student will find the book a very valuable aid in these matters.

Only those bacteria have been described whose actions are pathogenic to man and the pages are fully illustrated, mainly by reproductions from photographs. In an appendix the subjects of smallpox, hydrophobia, malarial fever, and dysentery are considered, and a short, general bibliography on bacteriology has been added. The book contains more than 500 pages, is well printed and carefully made, and its small, handy size is particularly acceptable. It is deserving of wide popularity and we heartily commend it to all interested in the subject.

THERAPEUTIC HINTS.

For Granular Conjunctivitis.—BLOEBAUM recommends the association of sulphate of copper and salicylic acid in treating this affection, the granulations being destroyed as by elective action without injury to the healthy parts of the conjunctiva. Corneal ulcerations do not contraindicate the use of this combination of remedies, which are prescribed as follows:

℞ Ac. salicylici, Cupri sulphat., Cocainæ hydrochlorat. } aa . . gr. xv
Vaselini alb. . . . . ʒ iiss.
M. Ft. unguentum. Sig. External use.

For Gonorrheal Urethritis.—

℞ Methylene blue . . . . gr. xxv
Ol. santali., Oleoresinæ copaibæ } aa. . . gr. xxx
Ol. cinnamomi . . . . gtt. x.
M. Ft. pil. No. X. Sig. One pill three times a day.
—*Horwitz.*

For Intertrigo.—

℞ Quininæ oleat. . . . . gr. v
Lanolini . . . . . ʒ ss
Ol. olivæ . . . . . ʒ iiss.
M. Ft. unguentum. Sig. Apply twice a day by inunction.

After use of the ointment cover the part with starch powder or with the following:

℞ Ac. salicylici . . . . gr. xxx
Magnesiæ . . . . gr. lxxx.
Talci . . . . . ʒ v.
M. Sig. Powder.

For Impetigo of Face and Scalp in Nursing Infants.—

℞ Ac. salicylici . . . . gr. xv
Bismuthi subnitrat. . . . ʒ v
Pulv. amyli . . . . . ʒ ii
Ungt. rosæ . . . . . ʒ iss.
M. Sig. External use.

If the impetigo is of the dry squamous variety, use the ointment by inunction, frequently repeated. If moist, apply a thick coat of the ointment on gauze. Pruritus and congestion will rapidly diminish while the new, healthy epidermis forms under the ointment-crust.—*Kistler.*

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ORIGINAL ARTICLES.

CERTAIN ASPECTS OF BONE AND JOINT DISEASE OF INTEREST TO THE GENERAL PRACTITIONER.[1]

BY VIRGIL P. GIBNEY, M.D., LL.D.,
OF NEW YORK;
CLINICAL PROFESSOR OF ORTHOPEDIC SURGERY IN THE MEDICAL DEPARTMENT OF COLUMBIA UNIVERSITY; SURGEON-IN-CHIEF TO THE HOSPITAL FOR RUPTURED AND CRIPPLED.

IT is to be presumed that all aspects of bone and joint disease should be of interest to the general practitioner, yet conditions frequently arise in the management of a case that seems to demand counsel, and the practitioner is often compelled to accede to the wishes of the family, occasionally feeling it to his interest to ask the consultant to conduct the case to a successful issue. This is not the time or the occasion to discuss the relationship which the general practitioner and the specialist maintain one to the other. The President of the Academy is desirous of calling forth discussions upon topics which shall interest the general membership. He naturally believes the sections competent to discuss the topics that pertain to different branches of medicine and surgery.

There are certain aspects of bone and joint diseases which specially appeal to the practitioner, and it shall be my aim this evening to allude to a number, and to present them in a way that should bring out a free discussion.

The injuries that commonly end in disease are not numerous, yet it is well to bear in mind that trivial injuries are sometimes followed by the most distressing consequences; that the term disease, as applied to these consequences is not inappropriate. Take, for instance, the tuberculous lesions of the bones and joints occurring in childhood. Notwithstanding the slight influence heredity is thought to play in the etiology of these affections there still remain a large number of medical practitioners throughout the country, and a still larger number of the laity, who believe that falls, bruises, and traumata of all kinds are responsible for the destructive diseases which render a child a cripple for life. A slight wrench sometimes given by the mother or the nurse, or a playmate, is followed so closely by symptoms that point unmistakably to disease of the bones that we are bound to recognize these traumata as factors, at least, in etiology. Since I have had this paper under consideration I have seen in a suburban town a child with evidences of cervical Pott's disease, who was perfectly well and free from any deformity about four weeks previously. The father was playing with the child one morning, teaching the little one how to turn a somersault, when, all of a sudden a cry was heard and the neck remained stiff from that moment. An effort was made to trace symptoms of infection prior to this date, but with unsatisfactory result. The common practice of "yanking" a child over a curb, that is, catching it by the arm or wrist, lifting it from street to sidewalk, sometimes ends in an injury to the elbow, characterized by the displacement of a tendon or an injury to the epiphysis. As a rule these injuries are trifling and no lesion follows. Occasionally the hyperemia set up in the neighborhood of the joint furnishes a fertile soil for bacilli, which may have been introduced long prior to this time into the system, and a tuberculous osteitis is the result.

Children convalescing from the exanthemata, or other infectious diseases are notoriously vulnerable, and the most trivial accidents are to be avoided. Curiously enough, the more severe traumata, such as falling from a roof or out of a window, at the height of two or three stories, or from a runaway carriage, seldom end in disease. The result of these severe injuries is immediate. Proper means for relief are at once adopted and disease rarely follows. Again, in adult life, more especially, bruises or frequently recurring blows in the same locality, end in sarcomata and other malignant growths. My attention has been called the more forcibly to this by my friend Dr. Coley, who has made a valuable contribution to the etiology of malignant disease (*Annals of Surgery*, March, 1898), and a perusal of this paper will satisfy one that malignant diseases of bone are, in a fair percentage of cases, caused by the injuries now under discussion. Calling upon my personal experience, I am prepared to corroborate the views maintained by the surgeons who have devoted much time to this subject.

With regard to neoplasms, little need be said, except in the way of urging early diagnosis. It may be asserted that an early recognition of a neoplasm is of little account so long as we are in such deplorable ignorance of a cure, still the spread of the pro-

[1] Read before the New York Academy of Medicine, October 5, 1899. For discussion see page 571.

cess may be checked, radical measures may be adopted all the earlier, and life, therefore, may be prolonged. Any occupation which renders one liable to a recurrence of blows on a given member, should be duly considered, and in that way a timely warning may be given. I recall, for instance, a paragraph in Dr. Coley's paper. He refers to a sarcoma operated upon by Dr. Bull. The patient was a dentist, and he was able to recall four or five instances in which this disease had been developed by a succession of blows connected with work about a dental chair.

I do not wish to convey the impression that repeated blows of this kind are usually followed by malignant disease. Indeed, only two days ago I saw a gentleman thirty-five years of age, who consulted me about a traumatic osteitis of the left tibia. The physical signs were quite distinct, the increase in size of the left tibia over that of the right was about one-half inch. The peculiar configuration of the bone enabled me to make a diagnosis. Now, this gentleman gave a history that three years ago, when in the bicycle business, he was subjected to frequent bruises of this shin. He was in the habit of showing the goods to the customers, and it happened that nearly every day the rat-trap pedal of the bicycle would strike against his shin. After repeated blows of this kind, he complained of pain, but it was not severe in character. He took the precaution to wear a rubber heel, and a few months later, took up another business which kept him out-of-doors. After suffering occasionally with pain in the tibia, and getting many opinions he, finally, about six months ago, fell in with a medical gentleman who gave him 20-grain doses of potassium iodid and applied some belladonna and iodin over his shin. This treatment gave relief very soon and for the past two months he has had no pain whatever. There is no lameness. I had in my mind the remarks in my paper when I examined him, and I felt pretty sure that here was a case in point, but I failed to find any malignant disease.

Repeated blows sometimes impair the walls of a blood-vessel and rupture takes place. I have seen two cases in which the blood-vessels of the gluteal region were injured. One I have already placed on record, as a case of rupture of the internal pudic artery. A lad, fourteen years of age, toward the close of the summer of 1886 was conscious of bruising his pubis, riding a bicycle. The bruise annoyed him for a few days and a little pain followed, but after resting there were no further symptoms. Using the wheel again he had some further trouble, then discontinued. Four weeks before I saw him, in consultation with the late Dr. Charles C. Lee in March, 1887, he had gone to Havana, and it was thought that he slipped and bruised his hip on the ship. At all events, the pain came on quite suddenly, and he was lame at least a week before sailing for home. En route the pain increased and disabled him very much. We found a little fulness in the gluteal region, but the result of exploration by means of a hypodermic needle was negative. Two or three days later the tumor had increased very much in size and a larger needle was inserted. Nothing but blood was found, so, with the aid of further counsel, Dr. E. L. Keyes, an incision was made on the 3d of April, 1887, into the mass. There was a large hematoma fed by the bleeding vessel, which we learned later was the internal pudic. It was so difficult to ligate that clamps were left in position and the cavity well packed. The patient died a few hours after the operation. It may be of interest to note that the opinions held by all in charge of the case were: (1) a suppurative synovitis; (2) a hematoma, which would soon undergo suppuration; (3) a neoplasm. Hip-disease was excluded.[1]

Some twelve years later, in April, 1899, I was asked by Dr. Pierson of Morristown to see a boy, eighteen years of age, of fine physical development, who gave this history: About a week before Christmas, 1898, while playing hockey, he was thrown and fell directly upon his right hip. A man quite as large as he fell across him as he lay on the ice. He was able to get up and hobble to his room, but there was a great deal of soreness about the hip. A physician was called the same day; he found nothing more than a severe bruise and ordered the patient to bed, where he remained four or five days, steadily improving. On getting up he went about stiffly, and ten days after the injury was feeling quite well, and was free from pain. He was so much relieved that he came from school in New Hampshire to his home in Morristown to spend the holidays. No attention was given to his hip. He simply was mindful that he had injured it, and for the next three months he had no difficulty in getting about. As a matter of precaution he did not indulge in any violent exercise, and on April 3d, after sitting a length of time on a hard chair, this same hip began to ache. The pain was so sharp that it rendered him quite lame as he walked to his room. On the evening of the same day there was considerable swelling noticed in the gluteal region. He returned home the next day, and when Dr. Pierson saw him the tension of the skin and the muscles over the gluteal region was quite marked; his temperature was

[1] *Medical Record*, page 241, August 27, 1887.

100° F. The patient could not lie upon his back, nor could he flex his thigh. After three or four days' rest, chiefly lying upon his face, he was able to get up and walk about the room. When I saw him I was able to confirm Dr. Pierson's observations and the question of diagnosis was not only difficult but urgent. We inserted an exploring needle and got a dark bloody fluid which looked like degenerated blood. The microscopical examination showed some freshly coagulated blood. It was difficult to tell whether some of the round cells were blood-corpuscles or the round cells of a sarcoma; the grouping, however, was not suggestive of sarcoma, so that a diagnosis was made of a hematoma, and I reinforced this by reference to my case seen some fifteen years previously. We called Dr. W. T. Bull in consultation, and the symptoms and signs suggested to him a sarcoma, though he agreed with us that it would be well to make an incision and make our diagnosis later. I made the incision under full anesthesia without delay, assisted by Drs. Bull and Pierson, and it was at least fifteen minutes after the first incision before we were able to satisfy ourselves as to the nature of the tumor. Large clots of blood were turned out, varying in size from a half dollar to one's fist. As we got near the bottom of the cavity, the clots seemed better organized. There was no fresh hemorrhage; no vessels, therefore, were tied, but simply large tubes inserted and packing of the cavity completed the dressing.

During my absence from the city, five days later, Dr. Bull was called and he found a little oozing from one of the smaller branches of the gluteal which was easily controlled. He found nothing specially alarming about the case. The progress of the patient from this time was uneventful. A trifling amount of suppuration followed. He made a good recovery and returned to school in time for commencement exercises, walking well and free from lameness.

It may be stated with little fear of contradiction, that slight injuries occurring in a patient whose ancestry is rheumatic or gouty, in a fair percentage of instances, brings out or develops rheumatism or gout and a general rheumatoid disease is developed. I have in mind two or three instances in which gentlemen, near fifty years of age, fractured the dorsal ligament connecting the second and third phalanges, and in which prompt measures of relief were adopted, and yet a general breaking up of the system, or a general development of rheumatic or gouty lesions followed in other joints. Take subacute rheumatic arthritis of the knee for instance. This is frequently induced by a slight trauma and acute synovitis follows almost immediately. Resolution seems to be established, and yet the recovery is not complete. Take, then, the three diseases that are most persistent and impair the functions of joints so frequently: tuberculosis, sarcomata, and rheumatism. All of these are certainly worthy of discussion, and present aspects that must appeal to any practitioner.

There are certain diseases that naturally end in deformity, adopt what method of treatment we may. A few may be mentioned in passing, such as rickets, poliomyelitis, tuberculous osteitis, rheumatism, gout, and neoplasms involving the epiphysis. Rachitis being a disease of malnutrition, closely allied at times to scurvy, it comes more particularly under the care of the family physician, and it is necessary to merely mention some of the deformities in order to suggest preventive measures: Pigeon breast, scoliosis, kyphosis, coxa vara, and deformities of the pelvis and extremities. The orthopedic surgeon is often called upon to correct these, and a knowledge of the cause enables him frequently to dispense with apparatus. The age, too, at which the deformity occurs, is often a contraindication to the use of appliances, except as supplemental to operative measures. The injury done to the bone by cutting operations, is, as a rule, very slight; diseases seldom develop at the site of operation. The trauma itself sometimes favors a sclerotic process, and bones, after division, are frequently stronger than they were before. The early recognition, however, of rickets and scurvy, is so essential that I am more than willing to leave a discussion to the Fellows of the Academy, and I shall pass, therefore, to the next item, poliomyelitis.

The neurologist will bear abundant testimony I am sure to the deformities and distortions of limbs that result from this destructive cord disease. The occurrence of outbreaks of multiple neuritis and poliomyelitis in certain parts of the country in the past few years has called our attention forcibly to the possible infectious nature of these diseases, and it will not be long, I am sure, before the pathologist will be able to abundantly confirm the view now maintained by men with large clinical experience. I know of no deformity of the joints more difficult to manage than that which follows a paralysis of localized groups of muscles. The spinal column, hip, knee, ankle, and shoulder, especially, present deformities that appliances and operations of all kinds sometime fail to correct. It is true that great relief may be afforded by what are called prothetic measures. Joints may be protected and muscles may be transplanted; capsular ligaments may be shortened, and even joints may be removed, substituting therefore a synostosis, which enables the patient to get about with more comfort, yet a disability remains, the lameness remains, even when the deformity is removed. It gives me pleasure, on this occasion, to refer to the

brilliant work that has been accomplished by surgeons in the relief of paralytic deformities.

Recognizing the great assistance the neurologist may render the orthopedic surgeon, we have succeeded in thus reinforcing our staff in the Out-Patient Service of the Hospital for Ruptured and Crippled. In this way we are enabled to determine more particularly what muscles may be of service if transplanted, what muscles will be of absolutely no assistance, and the advantages thus gained is already manifest. It may be asked what aspects of poliomyelitis are of special interest to the practitioner. I unhesitatingly reply that early diagnosis is that which should interest him, because the pathology is pretty well understood. The clinical history and results of the disease are also understood. Knowing, as we do, that the entire cord itself is involved at the outset, it should be our duty to limit the inflammatory process and to bring this about as quickly as possible by the use of counter-irritation or hot fomentations to the spine, or cold, or whatever methods appeals to the physician in charge. It is fair to assume that the force of the inflammation can be broken, and that ganglion cells may be saved from destruction. At the same time it is natural to presume that rest to the limbs will be the best means of restoring a muscle whose nervous supply is impaired or suspended. Protection should be thrown about these muscles, very early use is very undesirable in my judgment, and our efforts should be directed toward husbanding what strength remains. In caring for joints it must be remembered that the muscular protection is more or less removed, that ligaments will therefore stretch, subluxations are apt to occur as a result of the laxity of this ligamentous tissue, and advice of this kind I am sure is better than the advice given by the gymnast or masseur to stimulate the muscles to encourage the child to use the limb as much as possible and avoid apparatus. The whole theory of orthopedic appliances in poliomyelitis is based on protection of the joints, a conservation of muscular energy and a prevention of deformity.

Fortunately, rheumatism does not often deform a child, but there are melancholy instances in which the deformity is most persistent and most pitiable. It is in adults that we find the greatest ravages of rheumatism, but, come when it may, at whatever age, we should bear in mind that the deformities which do result are exceedingly difficult of correction, and that while the deformity itself may be overcome, the functions of the joints remain more or less impaired. Our efforts, therefore, should be all the more vigorous in the prevention of such disabilities.

I may, in passing, merely suggest the influence an empyema has upon the integrity of the spinal column and the chest walls, and to point out the importance of guarding against too great a deformity during convalescence. Some of the most distressing curvatures of the spine that it has been my misfortune to meet with have resulted from empyema.

As regards the differential diagnosis between spinal diseases and spinal injuries: By spinal injuries I mean strains, concussions, bruises and even anemic conditions, resulting in irritable spine; by spinal diseases, Pott's disease, malignant disease. While spinal injuries in children, and even in adults may occasionally end in disease, it is the rule for no disease to follow. There is usually a distinct history of trauma, followed by immediate results which soon disappear, to reappear months later. Occasionally, in cases of irritable spine the trauma may antedate by many months and sometimes a year. It behooves one, therefore, to search closely for a cause, to examine and cross-examine, especially when a gross lesion cannot be made out distinctly.

Some of the points in differential diagnosis between disease and injury are the gait, the stiffness of the column, impairment of function, and the location of the pain, whether in the course of certain nerves or whether localized. The general practitioner when called to examine a spinal case looks for tenderness over the spinous processes or lateral masses. If he fails to find any tenderness he is apt to rule out disease, although there may be a manifest deformity. Deformity may occur about the junction of the last cervical with the first dorsal, and a prominent vertebra prominens sometimes obscures the diagnosis. Not long since, in looking over a suspected case, I was inclined to regard the prominence of this spinous process as significent, when the mother remarked that it was a common deformity in her family, and had been noted for two or three generations. It may be well to state, for the sake of argument, that in vertebral disease, that is, disease involving the bodies of the vertebræ, tenderness is the exception. This is specially true in children. It is not so true in adults. I am quite aware that differences of opinion exist, but I am quite sure the orthopedic surgeon attaches very little importance to tenderness as a sign in Pott's disease. The reason is quite obvious. Since the lesion is confined to the bodies of the vertebræ, and since the nerves passing through the foramina of exit do not supply, as a rule, the spinous processes of the vertebræ involved, one need not look, therefore, for any tenderness. Why we should have tenderness in adult life I am unable to say, unless there be, as there often is, a hysterical element, a condition, perhaps, of general anemia, which makes pressure in almost any region produc-

tive of pain. Spinal tenderness is the rule in adolescence in the female, even when much deformity exists, and when one feels positive that a tuberculous lesion is present. The occurrence of irritable spine in young women, and even in older women, should prompt one always to examine the spine with regard to its function. Twist the column in all normal directions, insist on the patient going through active movements, so as to determine if there be any reflex spasm or ankylosis. The most common tests are hyperextension of the thighs with the patient lying prone upon the table, concussion, by coming down sharply upon the heels, or striking the top of the head, enabling one to determine whether the reflex spasm is excited—that is, whether the patient winces much. If a direct bruise has been made the local signs are quite distinct in the soft parts, so that one can easily distinguish between this and a destructive lesion of the vertebræ. The radiating pains in the course of nerves passing from different regions are very significant, especially the girdle like sensation one feels about the abdomen, or if in the cervical region, the occipital pains. Again when the disease involves the lumbosacral region, the symmetrical sciatic pains are significant.

Age is an important factor in differential diagnosis. For example, Pott's disease is less likely to occur in adolescents or adults than in children. The character of the pain will enable one frequently to differentiate between a malignant disease of the vertebræ and a tuberculous lesion. In malignant disease the pain is excruciating and persistent in spite of remedies. In tuberculous disease the pains come in exacerbations, and are not, as a rule, severe, but are annoying, and nagging in character. The gait may be the same in the two, yet in the tuberculous disease there is usually deformity. The aspects which appeal to the practitioner are the absence of deformity in incipient Pott's disease, the rigidity of the column, and the general behavior of the patient. A very common expression in certain parts of the country is that the child doesn't handle itself naturally. It will get up and down awkwardly, will grunt and groan during its sleep, the sleep therefore being disturbed; it will walk peculiarly, assuming a gait that is typically spinal in character. The steps are short and every precaution seems to be taken to avoid concussion.

The disease of the spinal column which simulates Pott's disease of the spine is rheumatic spondylitis, sometimes called arthritis deformans of the spine. By way of illustration, allow me to report briefly two or three cases bearing upon this point. A gentleman about fifty years of age came under my care in September, 1898, for a condition of his spinal column which had been regarded by one physician as lumbago, another as an irritable spine, and still another as rheumatism. He presented a right rotary lateral curvature in the dorsal with a compensating curve in the lumbar to the left. There was also a little anterior curvature in the lumbar region. The ileocostal space on the right side was deeper than on the left. There was no psoas spasm. Concussion was painless although he had radiating pains down the thighs. There was marked stiffness in the dorsal-lumbar region. The history he gave was that of a rheumatic attack. I failed to get the angular prominence, and yet I could not make a hard and fast diagnosis. I determined to treat him with potassium iodid in increasing doses, and at the same time to give him a support to his back, and made him a plaster-of-Paris corset, which did not give him relief until I got sufficient pressure against the lumbar spine to give him a sense of security. From that time to the present he has improved. I am satisfied to-day that he has no Pott's disease of the spine, that his case is purely one of subacute spondylitis, and I merely refer to this in order to contrast another case, that of a man thirty-five years of age, referred to me a few days ago by Dr. Bachmann of this city. In this patient I had no difficulty in making out a case of rheumatic spondylitis, with ankylosis of the entire column. Seventeen years ago he had an attack of gonorrheal rheumatism, which lasted three or four weeks. A few years later he had an attack of sciatica, lasting nearly a year. He gets cold easily and it is always necessary to take extreme care of himself. Five years ago he began to stoop a little. His deformity has increased a little since that date. He has the girdle pains, especially after much exercise. I found a posterior curvature of the spine from the fourth cervical to the twelfth dorsal, where there was a slight projection of a spinous process. There was marked tenderness in the upper dorsal and in the lumbar. The column was rigid throughout; as he lay upon his back he could not get his head to the table without great effort. I had him lie prone and he was obliged to rest upon his elbows and knees. He simply could not get his abdomen to the table.

I have already reported cases of typhoid spine, which have excited more or less interest, and which I now introduce merely as a contribution to differential diagnosis. These are cases occurring either during the attack of typhoid fever or toward the close of convalescence. There is exquisite tenderness, both on pressure and on movement. There is no deformity. The diagnosis is made on the history chiefly, and on the promptness with which it responds to treatment, such as the Paquelin cautery,

adhesive strips to the spine, which give a moderate degree of support, and occasionally a light steel apparatus.

I recall the case of a gentleman, twenty-eight years of age, seen in consultation with Dr. Henry S. Stearns of this city, on December 26, 1896. About the middle of July he had an attack of typhoid fever, which was practically a walking case. At no time were there any alarming symptoms, but from the beginning he complained of pain in his back. At the end of five or six weeks he was convalescing; he still complained of an occasional pain in his back. In the latter part of September he made a misstep, felt a sharp attack of pain in his right side, lumbar region; after a little rest he felt better, and two or three weeks later while flying a kite one day, he strained himself, and the pain was so sharp as to double him up and cause him to fall to the ground. From that time his pains were more and more frequent, more easily induced, and six weeks prior to the date of my seeing him he was brought to the city with considerable difficulty. It was necessary to transport him on a mattress on the train, and from the train in an ambulance to his home. Lateral movements caused pain; he was in a state of terror all the while lest some one should move him, and I found, on examination, a point of tenderness over the lateral masses of the first and second lumbar vertebræ. The examination was exhausting and therefore was not thorough. He described the pains quite graphically as shooting down the course of the anterior crural. I advised the use of the Paquelin cautery three times a week and made him a Knight spinal brace. I saw him occasionally during the next two months, and at each visit found him greatly improved Added to his typhoid spine was a neurosis of the spine which lasted well into the following year. During last winter I saw the gentleman at one of the clubs, and he reported that he was perfectly well, attending to business, had long since discarded his apparatus, and that his cure was complete.

It is astonishing how seldom the general practitioner makes a diagnosis of Pott's disease before deformity arises. He is so apt to disregard the history of the case, and is so apt to rely on physical signs, such as the angular projection of a spinous process or two. He rather waits for this feature of the disease before making a diagnosis, and complaints are frequently lodged against the family physician for failing to recognize the lesion at a time when restoration without deformity, and sometimes without impairment of function, is possible. A certain number of cases, on the other hand, of irritable spine are treated by plaster-of-Paris jackets and cumbersome apparatus for many months, and even years, on an error in diagnosis.

Rachitic curvatures are also diagnosticated as Pott's disease, and grave prognoses are given in cases in which relief soon follows.

A certain number of cases of Pott's disease begin with a slight lateral curvature, and it is a pardonable offense to mistake a true Pott's disease for a lateral curvature. A thorough examination, however, ought to elicit stiffness of the column, and tenderness on concussion, and one should, after such an examination, be able to distinguish between the two. These lateral curvatures that precede Pott's disease usually occur in young children, and the infrequency of a true lateral curvature at this period should excite some distrust; should lead one to look with suspicion upon the case, and to give the patient the benefit of the doubt. Protective apparatus should be employed until a diagnosis can be made.

In summing up the points in diagnosis I should say that a careful examination of the patient in a state of nudity is about the best means of arriving at a correct diagnosis.

Acute Affections of the Hip and of the Knee.—It is of great importance to know what affections are acute, and to this end I propose to call attention to a few which happen to have forced themselves upon me during a long experience. Take a phlegmonous periarthritis, sometimes dependent upon a bursitis, often upon a severe bruise. The soft parts are involved, the joint is not tender, but certain movements cause pain. If one can determine, therefore, whether the affection is phlegmonous in character or whether the bursa alone is involved, it will be easy to give a good prognosis, and thus save the patient from a long course of mechanical treatment. An acute suppurative arthritis may results from infection. Within the last six weeks I have seen a patient, a boy, with an acutely deformed hip, attended by much swelling about the joint, suffering night and day, and where, after a little observation, I found an ulcer over the ligamentum patellæ, which had resulted in an infectious process. The swelling about the hip proved very soon to be a large abscess, periarticular, and was relieved by incision. It was not necessary to employ apparatus; the deformity subsided soon after evacuation of the abscess, and I was enabled to give a good prognosis, that is, that the limb would be free from deformity and free from disability. A perinephritis, which is an acute process, will involve the psoas and iliacus muscles and produce deformity of the hip; a perityphlitic abscess will do the same.

Neuroses of the hip, while not specially acute, may produce deformity which is easily corrected.

Most of the acute processes are accompanied by a rise of temperature, general malaise, and such other conditions that are thoroughly recognized by the family physician. It is important, therefore, that he should know what affections are acute and what chronic. It is well to bear in mind that the acute processes, even an acute suppurative arthritis, in an infant, is remediable, and may be so treated that deformity will not result. If, however, the joint itself is involved by this acute septic process, it is difficult to give a prognosis until radical measures shall have been most thoroughly employed. If one can diagnosticate a lesion of this kind the sooner an incision is made the better it is for the patient. It is poor practice, in my opinion, to await further developments. Now, what has been said about the hip may be said with equal force about the knee.

I do wish, however, to report a case of scurvy occurring in a baby thirteen months of age, seen in consultation with Dr. Lloyd of Brooklyn, March 15, 1897. Without going into the details of the examination, a typical case of scurvy was recognized, and a tumor just above the right knee complicated the diagnosis; both limbs were excessively sensitive, but this tumor was suggestive of a sarcoma. I was enabled, however, to exclude this on account of the prominent symptoms of the disease just mentioned, although the needle of the aspirator failed to afford evidence one way or the other. I was aware that hemorrhages took place under the periosteum, and I felt that this was but part and parcel of the scurvy. The child died quite suddenly on the 23d of March, less than ten days from the time of my first visit, and Dr. Holt made the autopsy. He found the lungs, liver, and spleen spotted with effusions of blood, and on the top of the liver there was an extravasation about the size of one's thumb. The knee tumor, which had given rise to so much anxiety during life, proved to be an extravasation of blood under the periosteum, producing complete separation of the lower epiphysis of the femur. The joint itself was found normal. This case has already been reported by Dr. Holt to the American Pediatric Association in 1898.

The literature of the present day is full of the pathology and clinical history of chronic affections of the hip and the knee, such as tuberculous disease of the epiphysis, osteomyelitis, sometimes chronic and more often acute, rheumatic arthritis, arthritis deformans, and tabetic joint. All textbooks contain chapters that are sufficiently clear to enable any physician to recognize the nature of these diseases, and to put him, therefore, on his guard. Thus the points in differential diagnosis will interest us more particularly and it may be at once stated that in a tuberculous hip or knee lameness is an early symptom. Atrophy comes early; the reflex spasm is almost pathognomonic. All of these points should be duly considered. A lameness, for instance, which is very insidious, is the kind to which I refer; not a sudden loss of power, but a lameness which is recognized only at certain times of the day, becomes more and more marked in the course of two or three weeks, and which becomes specially marked during exacerbations. All diseases of this kind, it must be remembered, are characterized by exacerbations dependent upon trauma. The first exacerbation is seldom significant. The second, third, and fourth are more and more marked, and it is important that there *should be no more than the second.* The disease should be recognized at this period, and prompt measures should be taken to guard against further invasion of the disease as a result of trauma. The atrophy may not be significant; it may be very slight, especially if the child has not used the limb, and one is often tempted to look upon the atrophy as the result of disuse. A careful discrimination should be made, and proper attention given to all evidence of this kind. The reflex spasm is sometimes difficult to find. In making an examination one should not be satisfied with a few movements of the joint over small arcs, but the normal limit should be attempted by passive movements. For instance, the sound limb should be flexed to its full limit, and then the affected limb flexed to its full limit. The difference is usually very appreciable. As the limit is approached on the affected side a reflex spasm occurs, the child winces, resists, and the muscles seem to be on guard. The same is true of extension, hyperextension, rotation, abduction, and adduction. All movements should be made comparatively. The sound limb should be made use of in the test. The knee affords better opportunity for accuracy in diagnosis, in that the change in contour is an early sign. There is not, as a rule, much joint effusion, but there is an infiltration or a thickening, so to speak, about the condyles, around the patella, and sometimes about the head of the tibia. These points of thickening are usually recognized. They are "boggy," and this term well expresses the condition. The laying of one's hand over them elicits a certain extra heat, pressure brings out tenderness, and the absence of any acute process enables one to make any early diagnosis.

The point that should be dwelt upon again, and I purposely reserved it to the last, is the persistence of the lameness. There is no period during the time the child is on its feet that the lameness is not present. It may be very slight. It may, however,

simply be a favoring of the limb. The step may not be quite so long yet the mother is a very close observer and will tell you that there has been no absolute remission. If one can satisfy one's self that there have been periods when there was no lameness whatever, then hip disease may be excluded in the diagnosis. It is well, however, to regard this persistent lameness as pathognomonic. Let me illustrate this point by the narration of a case which first came under my observation on the 23d of May, 1898, in consultation with Dr. Vedder of this city. The child was seven years of age and the paternal family history was distinctly rheumatic as well asgouty. The mother's family history was also rheumatic. The child had no lameness of any kind until five or six months prior to the date mentioned, say the latter part of 1897, when, without any special cause, she favored the right knee and was partially disabled for a few days. She made a complete recovery and the lameness entirely disappeared. Two weeks prior to the date of my seeing her, say five months after the first attack, she complained of pain in the right thigh and knee, and the limb was apparently lengthened. She had a distinct hip-limp. The doctor regarded the case as rheumatic—put the little patient to bed. The result of my examination was negative. I was obliged to render the Scotch verdict "not found." Within a few days, recovery was complete. On the 22d of August, 1899, more than a year later, I saw her in consultation with Dr. Bell of East hampton The history of this attack was that, on the 14th of August, she complained of a little pain in her right knee, especially on the inner side. She was lame. The limb was apparently lengthened, although flexed a little at the hip. The doctor found it difficult to make complete extension. I learned that she had been bathing a week or two previously, and been playing on the beach with nothing on save the bathing suit. At the time of my examination I found a little resistance to extension. Dr. Bell had found resistance not only to flexion but to abduction and adduction as well at the date of his examination. There was no atrophy, no night cry, and I learned that during this omission of twelve or fifteen months there was absolutely no lameness. I excluded hip-disease, looked upon the case as rheumatic, and under antirheumatics she made a prompt recovery. On the 19th of September I had the following note from Dr. Bell: "Nothing to report on the little patient except a complete recovery. In a week's time there was no pelvic tilting present."

The change in contour and the reflex spasm may mean malignant disease. The case to which I referred in the beginning of my paper is one in point: A young women, twenty-two years of age, consulted me about her knee. She was wearing a plaster bandage applied at one of the clinics, and she had worn this for eight or nine months for tuberculous disease of the joint. I got a history of slight injury occurring some twelve or fifteen months previously, a history of lameness and pain, and found on examination a distinct change in the contour. The patella was indistinct, movements caused pain; I found a serpentine area of fluctuation on the outer side extending down under the ligamentum patella. I failed to note the condition of the patient; I failed to remember that localized areas of fluctuation are significant of malignant disease. I felt quite sure that pus was present, and that a prompt evacuation would result in marked relief. Although I failed to obtain pus by means of an aspirator I still adhered to my diagnosis, made an incision and found the whole lower end of the femur involved; in fact, only a shell remained. This patient, it is only fair to say, had really suffered very little, and the acute lancinating pains were absent. I felt chagrined, however, at not having made a diagnosis before the incision. The contents of the tumor were examined and a giant-celled sarcoma made out. An amputation at the hip-joint resulted. This was done most dextrously by my friend Dr. John B. Walker, to whom I referred the case in the Memorial Hospital.

I wish to call your attention, however, to the difficulty of diagnosis between chronic tuberculous disease of the knee in an adult and maglignant disease. These are aspects that appeal to every one. A diagnosis may only be reached by an exploration, yet it is sufficient to know that sarcomata are rather frequent in adults, and that tuberculous affections are not so frequent. An adult, it is true, may have tubercular disease which has lasted from early childhood. Recovery may have been partial, but never complete. The history, however, will enable one to discover all this, and great care should be taken in the examinations. The influence of hygiene and medication on chronic tuberculous affections is certainly worthy of your consideration. I take pleasure in calling your attention to this phase of the subject.

I am perfectly willing to admit that the orthopedic surgeon may be carried away by his apparatus or by the operative procedures. He naturally feels that his patient should be put in such a condition that an out-of-door life may be led, and he therefore feels that medication is of little consequence. Many, I say, are pessimists in therapeutics; many feel that there are few specifics, yet it is important to bear in mind that the general health should be kept above par, or at least to that point. The various tonics and nutrients can be employed with

great advantage. Hygiene is especially important, and this aspect of the disease must appeal to all.

Enough has been said already to make a repetition unnecessary, although I may be pardoned for calling attention to early diagnosis in all diseases that end in deformity, an early diagnosis of all injuries that end in disease, and of a study of all points in differential diagnosis.

TYPHOID FEVER IN VERY YOUNG CHILDREN, WITH A REPORT OF THREE CASES WITH UNUSUAL COMPLICATIONS.*

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No subject is of greater interest to the general practitioner than that of typhoid fever. Like the poor, it is always with us, and in the United States, at least, with the exception of tuberculosis, it is the source of greater mortality in our larger cities than any single ailment with which the medical man has to deal. According to statistics collected by Dr. F. S. Crum, and published in the *Medical Record* for August 12, 1899, during the past ten years in the twenty-four largest cities in the United States, the total number of deaths from this cause alone has been 41,931, representing not less than 600,000 cases of this preventable disease. Occurring at all ages, and giving rise to numerous complications and sequelæ, surgical as well as medical, no one subject has been the occasion of a greater amount of study and research, or has a more abundant literature relating to all its phases. The two cases which inspired this paper were of interest to me as occurring in children, and as presenting complications not frequently found at this period of life. Indeed, cases in the first year of life are exceedingly rare. Dr. J. C. Wilson[1] quotes Murchison as showing as a great rarity to the London Pathological Society in 1864 the intestines of an infant, six months old, who had been attacked by the disease at the same time as her mother. Holt[2] has never seen a case in a child under two years of age, and he quotes Northrup's report of 2000 autopsies on children, in none of which were any typhoid lesions found under that age. Lartigau[3] and others, however, have reported cases of typhoid fever in which the Widal reaction was obtained and the bacillus typhosus was demonstrated in the spleen and mesenteric glands, and yet the autopsy revealed absolutely no intestinal lesions. Ashby and Wright[4] find it very uncommon under three years, and Goodhart[5] had two patients under one year old with the disease, both cases proving fatal. Earle[6] cites a case of his own in an infant aged twenty-four months, in which death occurred from intestinal hemorrhage. He also cites a case reported in the London *Lancet* for January 2, 1892, by Ogle, in which the child was but four and one-half months old, and quotes Murchison as having had three cases in infants under a month old. He further quotes Vogel as having had seven patients under one year of age, Henoch as having had eight under two years, and Montmollin fifteen of the same age. A further case in an infant of eight months is reported by England of Montreal. Donkin[7] thinks the disease extremely rare under two years of age, and Parrot, Friedleben, Bouchut and Jules Simon do not consider that the disease ever exists among nurslings. The Widal reaction would, of course, be of use in settling this question in doubtful cases. Dr. J. P. Crozier Griffith[8] has found this reaction in an infant born while its mother was still suffering from typhoid fever. The same writer in another contribution,[9] says that an increasing number of cases is being reported in infants, and thinks that infected milk is the cause of many of them. He quotes Morse, however, as not having had a patient as young as two years among 284 children ill with the disease, and Bouchut as denying that it ever occurs among the new-born. Berg, he says, in analyzing 1626 cases occurring in Curschman's clinic, found only five patients as young as two years of age, and Filatow found none so young among 106 cases in children up to thirteen years.

From a paper by Dr. Stowell[10] on "Enteric Fever in Children," and one by Dr. Noyes[11] on "Enteric Fever in Infancy," read before the Section on Diseases of Children of the American Medical Association in 1895 I still further note the rarity of this disease in early life. Northrup is quoted as being skeptical of its occurrence in infancy, not one case having been observed in the New York Foundling Asylum in the twenty years of Dr. O'Dwyer's experience there, or in his own twelve-years' connection with the same institution. The same report comes from the Nursery and Child's Hospital in New York, and Dr. Page, the resident physician in the Children's Hospital of Philadelphia, the largest service in the United States, has never had a case there in an infant. Stowell, in his elaborate tables, only succeeded in collecting reports of 85 cases in children under three years of age. Since his report I note one case reported to the Washington Obstetrical and Gynecological Society, December 20, 1895, by Dr. Samuel S. Adams[12], in an infant of two years, the child presenting very marked meningeal symptoms. Dr. A. D. Blackader[13], in a paper read be-

* Read at the annual meeting of the Mississippi Valley Medical Association, held at Chicago, Ill., October 3-6, 1899.

fore the American Pediatric Society in 1896 also reported a case in an infant two years of age, there being present, also, marked enlargement of the liver.

In the recently published book of Dr. Hare, "Medical Complications and Sequelæ of Typhoid Fever," I note many additional cases in children under two years of age not given in Stowell's tables. Dr. J. H. Lee[14] of Cleveland reports one case in an infant of six months, and O'Malley[15] three cases at twenty-one months, three years, and six years in one family. Boobyer[16] records an instance in which out of a family of eight persons, five became infected through an infant aged eight months. The child had been restless and had constant diarrhea, but the fact that it was suffering from typhoid fever was not recognized. Osler states that perforation of the bowels from this cause has occurred in an infant five days old. Sbrana[17] has treated seventy-two cases of typhoid fever in children in Tunis, and found in some of them the complications of meningitis, parotiditis, aphasia, orchitis, and empyema. Hare maintains that in many cases in young children the disease is not correctly diagnosed, being often called "simple catarrhal fever," a term, he says, which covers a multitude of diagnostic sins. He calls attention to the fact long ago pointed out by Liebermeister that typhoid fever may occur in adults with mild symptoms and be so designated.

Case I.—J. L., female, aged nine months, of healthy parentage, nursing but partly bottle-fed, began to sicken about Feburary 26, 1897. She passed restless nights, awakening frequently with a sharp cry. She soon began to be fretful and restless through the day and her temperature to go above the normal, reaching 101.5° to 102° F. in the afternoons. Then vomiting of nourishment and water began, which continued entirely uninfluenced either by the frequency, amount, or character of the nourishment given. Some diarrhea then supervened along with the vomiting, tnere being from two to five stools a day attended by considerable pain and flatulence and some meteorism. With increase of pain and restlessness, the brain symptoms became more marked and strabismus and retraction of the head developed, in fact the entire symptom complex was that of meningitis. Her temperature meantime ranged from 102° F. in the morning to 103° or 105° F. in the evening. The cerebral symptoms increased, *tache cerebrale* became marked, and when not crying the little patient lay in a comatose condition. Finally convulsions supervened which left her apparently moribund.

I felt very sure that I had a tubercular meningitis to deal with and at this time gave an absolutely unfavorable prognosis. However, aided by a most excellent and determined trained nurse, the battle was still kept up, tepid baths given at frequent intervals, and such sedatives as potassium bromid given during the period of convulsions, and the patient breast-fed as soon as she was able to take anything in the way of nourishment. Her temperature gradually subsided, the enteric trouble lessened, the stomach became more tolerant, and one by one the meningeal symptoms disappeared, until on April 4th, about five weeks after the onset of the illness, the little one was fairly convalescent though still very weak and emaciated. Dr. A. F. Rooney of Quincy, Illinois, kindly saw the patient with me in the early part of the illness. At this writing, after a lapse of 2½ years, no more robust, healthy, and well-grown child is to be found than this little girl, not a trace of the serious brain trouble having been left behind.

The first question in connection with this case is one of diagnosis. The Widal reaction was not obtained, the test at that time not being in general use. But there was, first, a continued fever of gradual onset and long duration, with no existing condition of the throat or lungs to account for it. Then there were present the gastro intestinal and meningeal symptoms so frequently found in the typhoid fever of infancy. Dr. Rocaz[18] states that vomiting in this disease is frequent enough in children to beregarded as a part of the regular train of symptoms. Wilson says that vomiting occurs much more frequently in childhood than in grown persons, and may occur throughout the whole course of the sickness. It is more apt to be present in severe than in mild cases, and tends to increase the resemblance between enteric fever and tubercular meningitis, rendering the diagnosis for the time obscure. Griffith says that vomiting is a frequent initial symptom. He quotes two cases of obstinate, uncontrollable vomiting in children suffering from this disease, reported by Moussous, lasting in one instance eight, and in the other ten, days almost without intermission, yet followed by recovery. He has himself seen one case, running a course rather mild than severe, in which the child at last developed uncontrollable vomiting which lasted for days and ended in death. Rotch[19] says: "In my experience typhoid fever in young children is the disease which, next to non-tubercular meningitis, is most likely to simulate and be mistaken for tubercular meningitis We may also have considerable difficulty in differentiating tubercular meningitis from the non-tubercular meningitis which may occur in the course of typhoid fever. The extreme cerebral congestion which at times arises as a symptom of typhoid fever may also add fresh difficulties to the diagnosis."

In my case the absence of leucocytosis was the only point favorable to the diagnosis of typhoid fever rather than tubercular meningitis. Noyes[20] gives the history of a similar case in an

infant, aged eleven months, the infection being due to the milk used. The later history of this case followed a course which he says he has not found at all uncommon in recorded cases of typhoid fever in infancy, characterized as it was by certain symptoms which simulated meningitis. Along with vomiting and general irritability stiffness of the neck and opisthotonos developed, and irregular and convulsive movements of one arm and leg. There was not, however, as in my case any coma nor the well-marked *tache cerebrale*. Many other cases have been reported in children presenting a complete picture of meningitis complicating the typhoid fever, as one reported by Brown in the Montclair epidemic, in which there was great restlessness, tossing of the head from side to side, rigidity of the muscles of the neck, opisthotonos, strabismus, and hydrocephalic cry, in which there was complete recovery after twenty-eight days. Similar cases have been reported by Gerhardt, Simon, Rilliet, and Barthez. Griffith reports a case which he calls "meningitic typhoid fever" in a child which he thinks of rare occurrence. In this case the patient became unconscious and the *tache meningitique* became well marked on the abdomen; apyrexia was established on the 19th day, followed by rapid recovery. In this case the presence of the Widal reaction cleared the diagnosis of what appeared to be a case of meningitis.

Keen[21], while finding but few cases of meningitis recorded as a complication of typhoid fever, is inclined to think it more frequent than generally supposed. Hare[22], however, says that Osler has recorded three cases in which he made autopsies in suspected typhoid meningitis and did not find true inflammation. He further states that Taupin, in 1839, found on autopsy that in the typhoid fever of children with meningeal symptoms the condition is one of effusion without hyperemia. He further quotes Hirt in his work on "Diseases of the Nervous System," to the effect that of all diseases typhoid fever is most likely to be mistaken for meningitis. He further shows the rarity of true typhoid meningitis by the fact that from 1855 to 1887 there are only five cases referred to in the Index Catalogue of the Surgeon-General's Office. Its rarity is still further shown by the fact that out of 2000 cases in Munich only 11 are recorded in which the patients suffered from meningitis. In every case of true typhoid meningitis, so far as recorded, death has occurred. This, he says, does not possess great prognostic value, since an absolute diagnosis of true typhoid meningitis cannot be made during life. Keller[23], however, asserts that true meningitis in a child can be differentiated from typhoid fever with meningeal symptoms by the presence of "Kernig's sign" in the former, which is as follows: The child is placed in a recumbent position with the legs completely extended. Then it is raised to a sitting posture, when, if meningitis is present the knees become flexed and cannot be straightened out until the dorsal position is resumed. Hare does not consider the cases of Senn of Geneva, reported in 1825[24], as meningitis complicating typhoid fever in children as really having been meningitis, but as only representing meningeal irritation.

Case II.—M. McC., aged three and one-half years, began to sicken with fever and general malaise May 16, 1897, her temperature ranging from 101° F. in the morning to 103° or 104° F. in the afternoon. Associated with this there was more or less vomiting and headache and rapid prostration. The vomiting was controlled after some days by the use of dilute hydrochloric acid in 5-drop doses, the excessive temperature by tepid sponging and the administration of muriate of quinin in 2-grain doses every four hours, and the pain, flatulence, and diarrhea by camphorated tincture of opium in 10-minim doses at intervals. Frequent sponging with cool or tepid water was made use of throughout the continuance of the fever. Her temperature continued to range between 102° and 104° F., until the twenty-third day, when a double parotitis had fully developed, and it ranged higher, and within a few days evidence of pus formation was present. On June 14th, the twenty-eighth day, Dr. C. E. Ehle, administering the anesthetic, I freely incised and drained both parotid abscesses and kept them packed with iodoform gauze. The services of a trained nurse were invaluable in this case and largely contributed to its favorable outcome. The child's temperature remained high for some days, reaching 105° F., then gradually declined, reaching the normal about July 1st, the thirty-fifth day. Prior to the beginning of her illness she had already acquired a considerable vocabulary for one so young. During her illness she lost the power to utter a single word, and did not begin to talk again until July 14th, two months from the beginning of her illness, when she gradually resumed her accustomed speech.

Dr. Keen, in his work before quoted, has collected reports of but 75 cases of this complication in typhoid fever. In a tabulation of a very large number of cases made by Dr. Westcott, only 28 cases of parotitis occurred, 12 of them being bilateral, suppuration occurring in 7, the mortality being 30 per cent. Nine of the cases were in children under 15 years of age. It happened during the third or fourth week most frequently, but in one case, reported by Gilbert and Fournier, suppuration of both parotids occurred as early as the tenth day. Hoffman[25] is stated to have met with suppurative parotitis in 16 cases out of 1600 patients ill with typhoid fever, and that 7 of

them died; ordinary parotitis occurred in three cases. None of the writers on diseases of children, except Holt, has anything to say of parotitis as a complication of typhoid fever, and from this as well as its general infrequency I assume that it is not often met with. Aphasia seems much more common; indeed Hutinel[26] tells us that it always occurs in children. In all of the cases mentioned recovery rapidly ensued.

By the courtesy of Dr. C. W. Rook of Quincy I am enabled to report another case of typhoid fever in a child aged three years, it not having been previously reported and having come under his care August 16, 1896. Dr. Joseph Robbins of Quincy saw the patient in consultation with him. Stewart C., aged three years, had a continued fever with a range of temperature between 101° and 104° F., vomiting and diarrhea being present during the first week of the illness. On the seventeenth day swelling of the right submaxillary gland developed, which ended in suppuration. The abscess was evacuated, and subsequently suppuration occurred in the parotid gland of the same side. One week later, or on the thirty-third day of the illness the child died, the elevation of temperature having persisted to the end.

I can find record of but three other cases in which enlargement of the submaxillary glands complicated typhoid fever. The first was in that of Hoffmann, in which the swelling began on the fourteenth day of the disease and in a few days ended in suppuration and the patient's death. The second is the one reported by Gerloczy, cited by Hare, in which the patient, a girl aged fourteen years, suffered from typical typhoid fever, with swelling of the submaxillary glands of both sides. The third was one reported to the College of Physicians of Philadelphia by Dr. D. Milton Miller[27], in which the swelling of the submaxillary glands of both sides began on the twenty-seventh day of the disease, and by the fortieth day had subsided without suppuration.

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THERAPEUTICS OF INFECTIOUS CONJUNCTIVITIS[1]

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Infectious conjunctivitis must be understood to include all forms of conjunctivitis that are contagious or communicable from one person to another through various media. It must also include those cases of staphylococcus infection arising from dust. Clinically considered the mildest form of mucopurulent conjunctivitis, whether in the newborn, in the child, or in the adult, arises necessarily from a common cause. It is the form of conjunctivitis which was long known as the catarrhal. To Dr. Weeks of New York, Dr. Gifford of Omaha, and Dr. Heine of Chicago belong much credit for their experimental labors in determining the specific ferment which produces this type of conjunctivitis. Its course is not only milder and slower than the purely purulent types, its sequelæ less grave, but it is vastly more prevalent than any of the purulent forms of infection.

It is somewhat difficult to differentiate active mucopurulent conjunctivitis from a mild type of the purulent infection. Gifford, Morax and Axenfeld have found the pneumococcus during endemic outbreaks in the exudate. Dr. Burnett of Washington has been able to confirm these observations. It is clear, therefore, that the bacillus of Weeks, the pneumococcus of Friedlander, the diplococcus of Fränkel, and the micrococcus Pasteuri of Sternberg each cause a slightly different form of mucopurulent conjunctivitis. There may be others still undiscovered In all of them, however, in addition to the light colored pus in the inner canthus, there are

[1] Read at the annual meeting of the Mississippi Valley Medical Association, held at Chicago, Ill., October 3–6, 1899.

shreds of coagulated mucus in the retrotarsal folds of the conjunctiva. The lids are not much swollen. The exudation, drying on the lashes, causes them to adhere by agglutination. Corneal abrasions are rarely seen in any one of the varieties of this type of infectious conjunctivitis. The infecting ferment rarely takes entire possession of the contents of the mucous follicles of the conjunctiva. Consequently swelling of the lid is not great, invasion of the nutrient canals of the cornea does not take place, and chemosis does not occur. The therapeutic indications are for frequent and thorough removal of the infecting matter by ablutions or irrigation with such mild unirritating saline antiseptic fluids as will aid in the solution of the coagulated material, so sterilizing the surface of the membrane as to retard the growth of the micro-organisms, and at the same time possessing soothing and unirritating properties.

Since the terminal nerves in the surface of the conjunctiva are irritated by ablutions which do not contain chlorid of sodium it is manifestly clear this salt should constitute one of the ingredients of any solution to be employed for irrigation. Borate of sodium, in solution, containing a small portion of the chlorid, with enough carbolic acid to counteract by its anesthetic effect the mechanical irritation of the frequent and prolonged flowing of the stream from the irrigator over the surface of the membrane constitutes an all-sufficient and rational plan of treatment. The long-established and irrational practice of attempting to cut short infectious conjunctivitis by the application of caustics may be held responsible for nearly all of the disastrous sequelæ heretofore ascribed to all the varying forms of infectious conjunctivitis. In cases of mucopurulent conjunctivitis caustic applications lead to entropion, symblepharon, cicatricial opacities of the cornea, more or less deep seated, and xerosis of both cornea and conjunctiva; in fact, all those deformities, cicatrizations, atrophies, sphacelations, and staphylomas formerly attributed to catarrhal and purulent ophthalmia are but the natural results of the caustic treatment employed.

Mr. Benjamin Travers, Surgeon to St. Thomas's Hospital, in 1824, said: "One of the great errors, it appears to me, in the treatment of inflammations of the eye has been the irritation of the organ by stimulant drops and ointments. I am satisfied many eyes have been thus destroyed." Writing of gonorrhea in 1675 the great Sydenham said: "He who cleanses well cures well." Mr. John Walker of Manchester, says in his "System of Ophthalmic Surgery," 1857, page 23, in speaking of the treatment of catarrhal ophthalmia: "I am in the habit of preferring the application of the nitrate of silver, or sulphate of copper in substance." In mild cases of the disease he says a single application of nitrate of silver will generally be sufficient, if followed by the frequent instillation of a solution of sulphate of zinc, or sulphate of copper.

Of the purulent conjunctivitis, three forms have been described, the mildest one being produced by the staphylococcus pyogenes albus. The next in point of severity is produced by the staphylococcus pyogenes aureus, and the most dreaded and malignant type by the gonococcus of Neisser. In the beginning period of the initial hyperemia the clinical characters are the same. The period of incubation, however, is different in each. Without treatment each of these forms of disease leads to results somewhat different. In each of them the tendency to produce papillary hypertrophy, formerly called granular lids, may be accounted about equal.

The white staphylococcus does not cause much tumefaction of the lids; it does not cause chemosis; it does not tend to produce corneal abrasions or necrosis until the stage of papillary hypertrophy of the palpebral portion of the membrane comes on. In the golden staphylococcus inflammation the lids are tumid from edema. The ferment invades the mucous follicles at the outset and swelling of the papillæ in the palpebral conjunctiva tends to cause corneal abrasions by the time the disease is a week old. In the white staphylococcus inflammation, on the other hand, the engorged papillæ are not notably present within a month from the beginning of the attack. In the gonorrheal infection the lids are enormously swollen and livid; abrasions of the conjunctiva lead to mingling of bloody serum with the earliest formation of pus. Chemosis of the conjunctiva is rarely absent. Without treatment the cornea undergoes sphacelation and sloughs within the first week. It is manifestly clear that the infecting ferment in the gonorrheal type not only takes possession of the mucous corpuscles and invades the follicles but likewise the surface epithelium of the interfollicular spaces.

It is well to remember that all the infectious or catarrhal types of conjunctivitis are retarded by the use of alkaline lotions, and that all are intensified and greatly aggravated by the use of stimulating astringents and caustic applications. The treatment by irrigation is the only rational mode of cleansing; it is easy of application, the means of applying it are universally accessible, and the results are all that could be desired.

In the white staphylococcus forms of infection the irrigation may be practised with normal salt solution, or with the following:

℞	Borate of sodium . . .	℥ iii
	Chlorid of sodium . . .	℥ ss
	Cryst. carbolic acid . . .	gr. xv.
	Water	gal. i.

The frequency of the irrigation should be regulated by the accumulation of matter on the surface of the conjunctiva. The upper lid being everted and the irrigating bag being hung twelve inches above the plane of the patient's eye the nozzle of the irrigator may be held over the bridge of the patient's nose and the fluid allowed to run over the everted lid and the inferior retrotarsal surface into a mass of absorbent cotton held on the temple. This should be repeated every half hour, and when the matter accumulates sufficiently to exude between the lids this interval should be shortened by one half. If no accumulation of matter appears the interval may be increased, say, first to one hour, then two hours, and so on until there is no necessity for the repetition of the irrigation.

In the yellow staphylococcus infection the treatment may be precisely the same; it will be found, however, that in some cases the irrigation must be repeated at intervals of ten minutes during a period of two or three days and nights. A week of assiduous devotion to this method of treatment could scarcely be compassed before complete recovery unless papillary hypertrophy had already set in.

In the gonorrheal type the same plan may be pursued, but a more efficient irrigation may be made by dissolving three ounces of chlorid of sodium, eight grains of bichlorid of mercury, and one-half dram of carbolic acid in one gallon of water, which should be filtered before using. With this the eye may be irrigated every ten minutes from the very beginning of the attack, and if the treatment is commenced before corneal or conjunctival abrasions occur it is well-nigh certain they will not occur afterward. There is always some danger in the case of infants, especially, of the cornea being injured by the nurse's finger-nails, and lest this accident should occur from contact with the nozzle of the irrigator great care should be taken never to allow the instrument to approach nearer than one inch. To perform the irrigation properly two persons are required. Having prepared the irrigation and placed the patient on his back one person may evert the lid and hold a mass of absorbent cotton wool on the temple to catch the outcoming discharge while the other manipulates the irrigator.

When it is known that more than twenty-five per cent. of all the blindness in the world has resulted from purulent conjunctivitis the importance of the most painstaking care in its treatment becomes apparent, and although it may seem a little formidable to have two nurses in constant attendance upon such a patient both day and night for a week or ten days the fearful consequences of neglect and the almost certain success which may be expected from the exercise of proper precautionary measures repays for trouble and expense. The great therapeutic indication in all cases of purulent conjunctivitis is set forth in Sydenham's declaration that, "He who cleanses well cures well." Frequent washing away of accumulated matter must terminate the course of the disease as soon as the whole contents of the invaded mucous follicles shall have been discharged. Since the more general adoption of this treatment of this class of diseases by irrigation, entropion, pannus, anterior staphyloma, and symblepharon are practically unknown; even opacities of the cornea are becoming comparatively rare from this cause. Blepharitis papillaris also is becoming comparatively rare.

Of the therapeutic agents now in most popular favor, in addition to those already mentioned, are nitrate of potassium in combination with hydrastis, formalin, 1 to 2000, or 1 to 4000. nitrate of silver, 1 to 2000 or 1 to 4000, corrosive sublimate, 1 to 1000 or 1 to 10,000, and a saturated solution of boric acid. The advocates of each of these methods of treatment by irrigation report vastly more satisfactory results than were obtainable by the old method of daily cauterization and the use of astringent collyria.

CLINICAL MEMORANDUM.

A CASE OF HERNIA OF THE PREGNANT UTERUS.

By W. V. ANDERSON, M.D.,
OF TOLEDO, OHIO.

TEXT-BOOKS on obstetrics make frequent mention of the fact that the abdominal walls may so yield to the pressure of the gravid uterus that the recti muscles will separate, allowing the uterus to carry the attenuated aponeurosis before it and thus form a hernia, the uterus being the herniated part; but nowhere, so far as I am aware, has it been referred to other than as an inconvenience and source of annoyance or pain to the pregnant woman, interfering with locomotion, etc. I think no one has mentioned this condition as a cause of dystocia and it is on account of this special feature that I present the report of this case to you to-day.

Reynolds, in speaking of the relaxation of the abdominal walls, says: "This is most likely to occur in women who have borne several children and usually only when the confinements have followed each other with considerable rapidity. It gives rise to the malposition known as anteversion of the pregnant uterus, in which the fundus may reach in extreme cases a position below the symphy-

[1] Read at the annual meeting of the Mississippi Valley Medical Association, held at Chicago, Ill., October 3–6, 1899.

sis, or may even rest upon the thighs, this displacement being rendered possible by the distention of the tendinous central raphe and overlying skin after separation of the recti muscles. It is productive of much fatigue and draging pain, but may be relieved by the application of the proper binder." Lusk says: "In extreme cases of pendulous abdomen, the uterus, having separated the recti, descends, covered by fascia and skin, almost or quite to the knees, and seriously interferes with locomotion. Its pressure also produces edema of the abdominal wall, vesical tenesmus, and pain in the distended cutaneous tissues. These symptoms are relieved by reposition of the uterus and by the application of a suitable abdominal bandage." In the experience of these or other writers the condition has not seemed to play any part in the mechanism of delivery. You will therefore probably be interested in my report, if not for its practical, at least for its historical value.

On the evening of March 9, 1894, I was called in consultation by Dr. Arne Zetlitz of our city, now of Sioux Falls, S. D. I found him in charge of a large, well-developed Polish woman, the mother of ten children. She had been in labor for thirty-six hours under the care of a midwife before Dr. Zetlitz was called. Upon examination we found that the abdominal muscles had been separated to such an extent that the uterus had passed out between the recti, carrying the aponeurosis in front of it and hung like a great pear suspended by its cervical attachments, the fundus reaching nearly to the knees. The uterus was freely movable and the os was fully dilated. The uterine contractions were good, considering the length of time the woman had been in labor, but the position of the uterus rendered them ineffective, for at each contraction of the uterus the patient would make vigorous effort to help herself, and though the uterus would rise until its long diameter stood at a right angle to the body, yet contraction and shortening of the abdominal muscles instead of assisting delivery, acted somewhat as a draw-string at the mouth of a pouch, so that the greater the voluntary effort the more it interfered with expulsion.

We placed her under chloroform, and after inverting the uterus and having it steadied by an assistant, Dr. Zetlitz attended to the anesthetic while I applied forceps (the head presenting O. L. A.) and delivered without difficulty a girl weighing seven or eight pounds. The birth canal was ample, and there was absolutely no cause of dystocia but the herniated uterus and consequent prohibitory effect of the contractions of the abdominal muscles. The second day after delivery Dr. Byron Robinson and Dr. Lucy Waite of Chicago being with us we invited them to see the patient. At that time the abdominal muscles were still so relaxed that they lay like rolls at either side of the abdomen giving it something of the appearance of a shallow bird's nest, with the recti muscles as the rim, the uterus covered by the loose flabby integument forming the bottom. The skin was so loose and the muscular roll so prominent that the fingers could be slipped under them and the muscles could be easily grasped as one can grasp the lapel of his coat. The woman made an uneventful recovery, and some three months later told me that she had no inconvenience following the delivery.

MEDICAL PROGRESS.

New Method of Treatment of Wounds.—SCHLEICH, in his book on the treatment of wounds which has just appeared, has attempted to simplify the methods of minor surgery so as to make the general practitioner independent of what he calls the monopolization and centralization of surgery. He disputes the assertion that bacteria are the chief source of infection. He looks upon them as the accompaniments of uncleanliness of which their presence is sufficient proof, but he rejects the idea that they are the cause of sepsis and pyemia for the reason that these diseases occur in the presence of very different forms of bacteria. He supports his ideas by the citation of other illustrations. For example, characteristic fevers follow the ingestion of spoiled meat and fish although under these circumstances only small numbers of the ordinary streptococci and staphylococci can be shown to be present. Schleich insists that the operator should disinfect himself immediately after contact with infectious material, so that at any time he may be looked upon as nearly aseptic. Hand-brushes he describes as universal labyrinths for grease and dirt. He rejects all sorts of chemical methods of purification partly because they do not destroy the bacteria and partly because they cannot be thoroughly carried out. He advises a mechanical cleansing calculated to wash away the bacteria. He uses a "marble soap" which is made of a special alkali (steral) and contains marble-dust to take the place of brushes. After the hands are washed they are smeared with wax-paste to close the ducts of the sweat- and fat-glands which no method is capable of disinfecting. In the treatment of wounds he has small regard for antiseptics which can only control to a limited extent the development of bacteria. He advocates an early and wide incision in suppurative processes and tamponade of the wound with gauze. He rejects all drains and uses silk instead of catgut, because he does not believe that the latter can be prefectly sterilized. He boils his silk and immerses it in gelatin to preserve it from infection. The gelatin is melted off with hot water at the time of use. He lays stress upon the necessity of introducing "homogeneous substances" between the edges of infected wounds. If this can be accomplished such wounds will heal in the same manner as healthy cut surfaces. Glutol, a dry and sterile formalin-gelatin, fulfils this requirement.

Another Method of Sterilizing Catgut.—FREDERICK (*La Gynecologie*, August, 1899) says that catgut can be sterilized and that a well-made knot will not slip; therefore the two objections to the use of this material do not hold good, while the disadvantages of a non-absorbable material are too evident to need further demonstration. He prefers formalin-catgut on account of the ease with which it can be sterilized in boiling water. The process of sterilization is a very simple one. The catgut is wound very tightly around glass plates in a single layer. The ends of the thread are caught in notches in the plate and securely fastened. This is to prevent the retraction of the gut which occurs if it lies loose in the formalin solution.

These glass plates are put in a jar containing a 3 per-cent. solution of formaldehyd in water. The commercial solution is a 40-per-cent. solution, therefore to obtain a 3-per-cent. solution it is only necessary to add to it thirteen parts of water. The solution will keep indefinitely and may be used over and over again. According to the size of the catgut, it is left in the solution from one to five hours. If left in too long it becomes hard and brittle. It is then removed from the formalin bath and placed in running water over night or for a time sufficiently long to remove every trace of formalin. Such catgut is not sterile but it is in a condition to be boiled in water without injury for a quarter of an hour. It is then preserved in sterile tubes which contain a mixture of glycerin which has been sterilized by boiling in a warm-bath and 95 per cent. alchohol—nine parts of alcohol to one part of glycerin. Such catgut is usually absorbed in eight or ten days. If it is desired to have a catgut which will last for several weeks, the glass plates with the catgut wound upon them are placed for twenty-four hours in a solution of bichromate of potash, 22 grains; glycerin and carbolic acid each 2.5 drams, and one quart of water. After twenty-four hours it is removed from the solution of bichromate of potash, washed and dried, and then placed in the formalin solution.

Purpura Hemorrhagica.—Williamson (*The Phys. and Surg.*, August, 1899) discusses the etiology of purpura hemorrhagica which was variable in the four cases cited. The first patient was a young lady apparently in perfect health who was badly frightened by an attack upon her escort in the evening. She received no physical injury but in a couple of hours she had a violent chill followed by hemorrhages from the nose, mouth, gums, kidneys, uterus, and bladder. A short time afterward ecchymoses came out simultaneously over nearly the whole body. The heart's action was very rapid—130 beats per minute. Nerve tonics, astringents, and iron tonic apparently arrested all bleeding, although for a long time any emotional disturbance caused a recurrence of epistaxis and bleeding from the gums. After a year's freedom from hemorrhages, marriage and a miscarriage caused a recurrence. Under tonic treatment she again improved and was well for two years until she gave birth to a full-term child. Then the hemorrhages recurred and soon after ended fatally. A second patient, a boy of three years, exhibited malaise, anorexia, and headache for two or three days, then multiple ecchymoses appeared in the skin of nearly the whole body. The child gained rapidly under treatment and was free from hemorrhages for four months. One day after vigorous play with an older brother he complained of feeling tired. Then came ecchymoses followed by vomiting, a comatose condition, and death forty-eight hours after the prodromal symptoms. In the third case mentioned the purpura was directly attributable to the administration of iodid of potash; while in the fourth case the outbreak of purpura happened in conjunction with pulmonary phthisis. Williamson considers the prognosis a grave one. His treatment is absolute rest in bed, liquid nourishment, and good hygienic surroundings. Ergot and other astringents have given him only negative results. Tonics of iron and arsenic he found to be the most satisfactory remedies.

A New Symptom of Obstructive Thrombosis of the Lateral Sinus.—Voss (*Arch. of Otol.*, August, 1899) believes that he has found a symptom which will enable one to make a diagnosis of thrombosis of the lateral sinus without a delay of three or four days. A normal unobstructed vessel, such as the internal jugular vein, gives a certain murmur which cannot be heard if the vessel is occluded. If the murmur is not present in a normal vessel it may be produced artificially by slight pressure of the stethoscope. A stethoscope is therefore placed lightly upon the neck close too the base of the skull. It is of advantage not to press too hard with the instrument. The stroke of the carotidis a guide and the pressure should not be sufficient to obliterate it. The ear must become accustomed to the loud tracheal râles. If the murmur is absent while present on the other side of the neck, or if light pressure upon the jugular fails to produce it, the inference is clear that the sinus is occluded by a thrombus. Owing to the entrance of the facial vein, the murmur may be present at the middle of the neck when absent higher up.

Do Patients Recover from General Peritonitis?—Stone (*Vir. Med. Semi-Month.*, September 8, 1899) says that most surgeons believe that the entire peritoneum is involved in conditions described as general peritonitis; but many cases tend to disprove this. The peritoneal cavity may be distended with pus, or blood, or bloody serum, without the existence of acute peritonitis either local or general. In some of these cases the pus is quite sterile; while in other instances, when the peritoneum is almost dry but very red, the patient may present grave symptoms of sepsis and shock. The severity of the disease must not be gaged by the mere presence or absence of fluid. Death may result when only a limited portion of the peritoneum is involved. Indeed, it is rare that a localized peritonitis becomes general, but without localization the process may rapidly spread over the whole peritoneum. As there are few, if any, recoveries from acute general pneumonitis when the entire lung surface of both sides is involved so there is every reason to believe that an inflammation of the whole peritoneum must usually prove fatal.

THERAPEUTIC NOTES.

For Post-operative Nausea.—

℞ Hydrarg. chlor. mit. . . . gr. ss
Cerii oxalatis . . . . . gr. x
Codeinæ sulphatis . . . . . gr. i.

M. Ft. chart No. V. Sig. One powder every half hour for four or five doses.—*Rhoads.*

Mouth Wash for Fetidity of Breath.—

℞ Sodii bicarb. } aa. . . . . ʒ i
Saccharini }
Ac. salicylici }
Spiritus . . . . . ʒ vi.

M. Sig. Mouth wash.

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SATURDAY, OCTOBER 28, 1899.

AN ADVANCE IN GASTRIC SURGERY.

The first meeting for the year of the Section on Surgery of the New York Academy of Medicine, an account of which may be found on page 574 of our present issue, brought out a series of clinical contributions, the results mainly of the summer's work, containing much that was of practical interest. Dr. Curtis's cases of pylorectomy and partial gastrectomy represent the newest phase of gastric surgery. How ultimately hopeless operations for gastric cancer are all surgeons are agreed. Even the recent cases of total, or almost total, excision of the stomach, which have attracted universal attention from their boldness, while successful as operations, have succeeded only in putting off the inevitable for a brief period. The step in advance then that is suggested by the proposal to operate before definite signs of cancer have presented themselves, promises to be a gain for surgery, provided certain reasonably sure indications for operative intervention can be established.

The proposal to resort to surgery in obstinate cases of dyspeptic trouble will not seem too radical to those who have realized the hopelessness of ordinary medical treatment in many of them. As was stated, French surgeons have not only argued very plausibly as to the advisability of surgical intervention in such cases, but have put the idea to the test with reported good results. Not only in stenotic conditions of the pylorus, but in dilatation of the stomach, and even in obstinate interference with its peristaltic functions, gastro-enterostomy is justifiable when it becomes evident that medical means will not give relief. The operation practically makes of the stomach only a very temporary receptacle for food, and dispenses with the gastric digestive functions entirely. Recent experiences, both medical and surgical, have shown, however, that the gastric functions are by no means the indispensable agents for digestion and nutrition that they have formerly been considered.

If by these operations for obstinate gastric dyspepsia the development of cancer of the stomach could sometimes be anticipated, as would undoubtedly be the case, for long-continued gastric irritation predisposes to cancer; or, as in Dr. Curtis's cases, if the cancer could, by a fortunate chance, be discovered before it had given rise to any characteristic symptoms of a malignant neoplasm, a most fortunate benefit would be secured for the patient and a great surgical triumph scored. The subject is yet in its incipiency, but enough has been done to point out a way of possible advance in surgery, in a matter that is of great practical importance, and which thus far has proved most discouraging.

SYPHILIS AND ITS INDIRECT EFFECTS UPON THE NERVOUS SYSTEM.

There are those who still refuse to admit the etiological connection between syphilis and such nervous diseases as locomotor ataxia and general paralysis of the insane. From year to year, however, their number is growing steadily less. Leyden's great influence remains constantly and consistently in opposition. He is the most prominent of those who refuse to accept the doctrine which the teaching of Erb and Gowers has made so universal. But the writings of his school only serve to keep from complete disintegration a cause that is every year losing in followers.

Two recent medical conferences have served to

bring out this fact with renewed emphasis. At the last meeting of the British Medical Association there was a discussion upon the relation between syphilis and general paralysis of the insane. Even the most conservative of those present conceded that while a certain impaired nervous constitution, either congenital or acquired by overwork or excess, is the favorite basis of the disease, syphilis is practically always its active cause.

Some of the recent statistics bearing upon the prevalence of the disease in certain places are of great interest. In Iceland previous to two years ago only three cases of general paralysis had been observed, one in a sailor, the other two in prostitutes who had relations with foreign seamen. In Ireland the disease is very rare. Among the Highlanders of Scotland it is extremely uncommon. Among the European peasantry it is infrequent, while in the cities of the European continent it is becoming increasingly more frequent. All of this points to its close relationship to syphilis which has the same variations in frequency. Of late a number of cases of adolescent general paralysis has been reported in patients between twelve and twenty years of age. Nearly every case gave evidence of congenital syphilis or at least presented suspicious circumstances.

At the recent International Conference for the Prevention of Syphilis and Venereal Disease, held at Brussels, one of the main reasons urged for the better regulation of venereal diseases and the spread of the knowledge of their baleful effects, more especially among the young, was this liability to post-syphilitic nervous complications. Dr. Jonathan Hutchinson of London, a most conservative thinker and writer, called attention to the fearful and hopeless affections of the spinal cord engendered by the disease, and while deploring extravagant sensationalism in the matter, said that we are bound to make the dread effects of the disease more widely known.

ECHOES AND NEWS.

Western Surgical and Gynecological Association. — The ninth annual meeting of this association will be held at Des Moines, Iowa, December 27 and 28, 1899. Surgeons and gynecologists of the great West are cordially invited to affiliate themselves with this association. George H. Simmons, 61 Market street, Chicago, is the Secretary and Treasurer.

Dysentery Epidemic in Japan —A special despatch to the *Chicago Record* from Tacoma, Washington, states that a terrible epidemic of dysentery is sweeping over Japan. Official statistics show, it is declared, that out of 50,000 persons attacked up to September 14th, nearly 12,000 have died. It is estimated that 100,000 cases will have been recorded before the end of October.

The New York Skin and Cancer Hospital.—The governors of the New York Skin and Cancer Hospital, Second avenue, corner of 19th street, announce that Dr. L. Duncan Bulkley will give a second series of clinical lectures on diseases of the skin in the out-patient hall of the hospital on Wednesday afternoons, commencing November 1, 1899, at 4.15 o'clock. The course will be free to the medical profession.

Obituary.—Dr. James Campbell, president of the Health Board of Hartford and one of Connecticut's most noted physicians, died October 17th, aged fifty-one years. He was graduated from the College of Physicians and Surgeons, New York. He became professor of obstetrics at Yale in 1866, and held that chair until last June. At the time of his death he was lecturer on Life Insurance at Yale, a chair which was created last year.

Utica Hospital Superintendency.—As the result of the civil-service examination held at Albany on October 16th for the appointment of a superintendent for the Utica State Hospital, the following candidates are eligible, ranking in the order named: Harold L. Palmer, State Hospital, Utica; Henry P. Frost, State Hospital, Buffalo; William L. Russell, State Hospital, Millard; Jelnin Courtney, Hudson State Hospital, Poughkeepsie.

The New York Obstetrical Society, Election of Officers. —At the annual meeting of the New York Obstetrical Society, held October 10, 1899, the following officers were elected for the ensuing year: Dr. Clement Cleveland, president; Dr. H. J. Boldt, first vice-president; Dr. R. Waldo, second vice-president; Dr. R. L. Dickinson, recording secretary; Dr. E. A. Tucker, assistant-secretary; Dr. E. E. Tull, corresponding secretary; Dr. J. Lee Morrill, treasurer.

The Death of Mr. William H. Appleton, the senior member of the firm of D. Appleton and Company, occurred at New York, October 19th. He was in the eighty-sixth year of his age. Although Mr. Appleton had not been active for some years past he was for many years one of the prominent factors in bringing American book-publishing to its present high level. To him is due the credit of giving noted impulse to the popularization of scientific facts and discoveries. In the medical world his firm is known more especially as the publishers of the *Popular Science Monthly*, the *American Gynæcological and Obstetrical Journal*, and our well known contemporary, the *New York Medical Journal*.

The Yellow-Fever Situation is in most particulars much improved. In the Gulf States generally, except Florida, the epidemic seems to be practically at an end. No new cases have been reported from New Orleans recently and quarantine

regulations against that city are no longer being enforced. New cases of the disease are still being reported at Key West but they are not so frequent as last week and the death-rate is very low. Unfortunately just as the disease seems about to die out at Key West a new focus has been lighted up farther north on the Florida Coast. An officer of the Marine Hospital Service who has been investigating suspicious cases at Miami, Fla., made public the following report on Monday of this week: "After a careful examination of many of the cases of fever, the State Health Officer announces the existence of yellow fever in this city. Five distinct cases of yellow fever have been seen, and from clinical histories submitted, there are doubtless several others. The infection is distributed over the town, mild in character, but unmistakable in recognition. To limit the spread of, and to destroy the infection as rapidly as possible, a depopulation of Miami is recommended." More cases are reported at Jackson, Miss.

Typhus on a Steamer.—Colonel J. Lewis Good, Chief of the Philadelphia Health Bureau, has taken prompt steps to avert any possibility of contagion from two cases of typhus fever which were discovered on board the Red Star Line steamer "Aragonia" when she reached that port on October 12th. One of the patients died on October 14th and the other is isolated and is likely to die. Thirty passengers on the "Aragonia" who were permitted to land before the true diagnosis was made, and who had scattered throughout the city, are now confined in two large tents on the grounds of the Municipal Hospital. The destinations of sixty other passengers, who were bound to different points in Pennsylvania, were learned from the books of the immigration inspectors, and the authorities of these towns warned to look out for their arrival. The New York State Board was notified on October 16th by the United States Commission of Immigration at Philadelphia that six of the "Aragonia's" passengers were bound for New York City and one for Binghampton. The names and residences of these people have been furnished so that the necessary precautions may be taken.

The Liverpool Malaria Commission Returns. — The steamer "Fantee" from Lagos has recently touched at Plymouth, England, with Major Ross and the other members of the Liverpool Malaria Commission on board. Dr. Ross speaks most hopefully of the prospects for complete extermination of *anopheles*. It has been found to be a shy and fastidious breeder, using only those pools and puddles which are permanent in character, whereas *culex* will breed in any rain puddle, barrel, or even sardine-tin which remains full of water for a few weeks. And as neither of these pests can breed successfully in pools or streams large enough to be stocked with minnows or into which fish can even penetrate at high-water, their larvæ being the favorite food of these useful little "shiners," the *anopheles* pools are both limited in number and can be picked out in any given area with comparative ease. Still another requisite must be present and that is a free growth of algæ, as the larvæ feed chiefly upon these in this intermediate stage of their development. By an interesting and, for everybody but the victim, most fortunate accident, one member of the party slept a single night without mosquito-curtains and promptly developed a sharp attack of malaria in consequence, while not another individual was attacked. This is confirmatory of the experience of Grassi as previously described in our columns. It will be remembered that Grassi, together with a young couple with five children, slept with open windows for eight nights during the dangerous season in the Roman Campagna, protecting themselves with fine mosquito-netting, and none of them was infected with malaria.

The Plague Situation is, on the whole, better than last week. For the third time now Alexandria is announced to be definitely rid of the plague. No new cases have occurred or at least none has been reported for over two weeks. It is to be hoped that the self congratulation of the Alexandrian sanitary authorities will not be rendered nugatory and a little ridiculous by the occurrence of further cases, as it has been twice already. At Oporto in Portugal new cases of plague still continue to occur each week. In general the situation there continues to be rather disquieting. Over 160 cases of the disease with 50 deaths have occurred up to the present time. We clip the following from the *British Medical Journal* with regard to the state of affairs in the Peninsula: "The Sanitary Commission has prohibited the holding of theatrical performances and public balls. This indicates a serious state of affairs, and it is unfortunate that the depressing influences of an epidemic are about to prevent means of amusement to a community. The sanitary officials have much to contend with in the face of the prejudice of the populace. Their beliefs indicate an Orientalism which, to those who do not know the Portuguese, will seem surprising. The people believe that the disease is the invention of the doctors, and that patients are taken to the hospitals only to be made away with. We look for such opinions in India and China, but scarcely believe it possible in Western Europe. The work even of the authorities is not carried on with that degree of enlightenment one would expect. One example will suffice. In a low part of the town of Oporto a boy died of plague. Policemen were stationed at the street door of the house and at the door communicating with the flat in which the boy died to prevent the inmates, to the number of nine, coming out. There these people were incarcerated in a manner worthy of medieval times. To those who know Portugal these reports are not surprising. Orientalism tinges many of their beliefs and customs, and, seeing that three-fifths of the nation are wholly illiterate, one is quite prepared for outbursts of an almost fanatical nature. Even Dr. Jorge, the enlightened medical officer in charge of the plague, summed up his opinion of the state of certain quarters of the town as "*une ville Orientale.*" The opinion of Dr. Calmette is that the number of plague cases is much more considerable than the official statistics indicate. The majority of the poorer classes never send for a doctor, and many prefer to die rather than enter a hospital. The proportion of fatal cases to those attacked is satisfactorily small. This hopeful state of things may be due to the

use of the serum prepared at the Pasteur Institute, which, according to all reports, is efficacious both for preventing and curing attacks of plague, when rightly employed." In India the situation is practically unchanged. In the Presidency of Bombay as a whole, the disease is rather worse than better and the usual winter recrudescence of plague seems just beginning. At Poona, however, the improvement noted last week and the week before continues and there is hope now that the disease is definitely under control. Lord Curzon, the Viceroy of India, and his staff are about to visit the plague-stricken districts. An attempt is to be made, by having the Viceroy and his immediate following publicly inoculated with protective serum, to convince the natives of its harmlessness and get rid of the prejudices against it. The British Government in India seems to be waking up at last to the necessity incumbent on it of taking every possible means in its power to stamp out the disease. The Viceroy's visit is meant to wake up local governments to a proper sense of their duty in the matter. From the China Coast there are no more alarming reports. At Mauritius the situation remains about the same. At Lorenzo Marques, in Portuguese South Africa, plague undoubtedly exists. Since the breaking out of the Boer-English war, the town is fairly overrun with refugees. Thousands of people are huddled together in cramped quarters. There is a large representation of natives, roughs from the gold fields and Malays and Indians imported to South Africa to work in the gold mines. Law and order is at an end, and it is feared that the plague will work havoc in the town owing to the impossibility of enforcing sanitary regulations.

MEDICAL MATTERS IN NEW YORK.

DEATH OF DR. HENRY J. KELLY—PHYSICAL EDUCATION SCORED—NEW BINOCULAR MICROSCOPE—TYPHOID IN BROOKLYN—LOVE AND DUTY SUCCESSFULLY COMBINED — A PLUCKY SURGEON—DAMAGES IN AN ACCIDENT CASE—A CONSUMMATION DEVOUTLY TO BE WISHED—ST. LUKE'S HOSPITAL WORK—LOOMIS LABORATORY SUIT.

Dr. Henry Joseph Kelly died on October 16th. He was graduated from the College of Physicians and Surgeons, was a New York Hospital Interne, and had practised for eighteen years in this city. He was forty-two years old. He was a member of the Medico-Legal and the County Medical Societies, and of many other associations. He had served most acceptably for the past ten years as instructor in bandaging at the New York Polyclinic.

The condition of physical education in the public and private schools of this city was the subject of adverse comment at the meeting of the Physical Education Society of New York and Vicinity, held on October 19th. Dr. Walter L. Savage considers that the new public schools in the city are highly satisfactory to upholders of physical education in one way, but a great disappointment in another. They are all well equipped with gymnasia and gymnastic apparatus, but these are not used. Moreover, the system which regulates physical education in the public schools is wrong. Two supervisors are supposed to give instruction to about 6000 teachers, a manifest impossibility.

At the New York Microscopical Society's twentieth annual exhibition on the evening of October 20th, Dr. Carl Zeiss' recently invented binocular microscope was the most interesting feature. It is the first of its kind seen in America. Its two tubes do not converge, but are parallel. The effect is to bring out the object under inspection in plain perspective, and to make all the dimensions clearly visible.

The prevalence of typhoid fever in the neighborhood of Keap and South Third streets, Williamsburg, caused residents in that vicinity to hold an indignation meeting on the evening of October 21st. Committees were appointed to protest to the Health Department against the lack of sewer facilities and the dirty streets, and to obtain signatures to a protest. The mortality has of late been on the increase, and the streets have not been so filthy in many years as they now are.

Dr. R. W. Plummer, a surgeon attached to the Marine Hospital at the Brooklyn Navy Yard, found himself recently in a distressing situation. He was assigned to the cruiser "New Orleans," which sailed October 21st for Manila. On the other hand, he was engaged to be married some time this winter to a young lady living in Dayton, Ohio. As soon as he received his assignment he telegraphed his affianced to come to the Brooklyn Navy Yard to bid him good-bye. On her arrival on October 19th an idea suddenly evolved itself from somewhere among the subliminal strata of Dr. Plummer's consciousness. This was to suggest that they be married at once, and on board ship. The prospective Mrs. Plummer agreeing, the ceremony was performed by Chaplain Curtis H. Dickens of the cruiser "Chicago," which vessel, no doubt by a special dispensation of providence, was lying near by. Among the wedding party were Rear-Admiral Philip and Captain Longnecker of the "New Orleans." We heartily regret to announce that the "New Orleans" sailed for Manila on October 21st, two days after the wedding.

A Bellevue Hospital ambulance, while hastening in response to an emergency call, was badly wrecked by being caught between a truck and a trolley-car. Glass flew in all directions from the broken windows of the car, the driver was forcibly thrown to the ground and badly cut and bruised, while the ambulance surgeon was violently knocked about in the ambulance, being bruised and cut by the flying glass. Without thought for himself, however, he sought the nearest telephone, announced the catastrophe to Bellevue Hospital, and asked that another ambulance be sent to the point of his destination. With the blood still trickling from a scalp wound, he boarded a truck standing near, and was driven to his "call." When he arrived at the hospital with his patient, it was found that the surgeon had an injured left ankle, a bruised forearm, a swelled head, and several minor cuts and bruises, but the patient was safe and comfortable. This is in striking contrast to the action of the ambulance surgeons who, when summoned recently to care for victims of an accident on the Brooklyn Elevated, spent their time

wrangling over their respective claims to the sufferers while the latter writhed in agony.

Mrs. Thora Scott recovered judgment for damages on the trial of her suit against Charles Banks, in this city, for an injury which she received by falling into a coal-hole in front of the latter's premises. The Appellate Court, however, directed a reversal on the principle that where actual pecuniary damages are sought some evidence must be given showing their existence and extent. Two physicians had been treating Mrs. Scott for a considerable period, but no evidence was given as to the value of their services. The court said: "As it is impossible to say how much the jury awarded for the services of these physicians, and how much for the plaintiff's pain and suffering, the verdict cannot stand."

Chief Inspector Martin of the Division of Food Inspection, Offensive Trades, and Mercantile Establishments of the Health Department declares that the Barren Island nuisances no longer exists. Dr. Martin made an inspection of Barren Island affairs last spring, acting under orders from the Health Board, and the recommendations he then made touching improvements in the various rendering plants on the island have been complied with, so it is said. The inspector has himself made a weekly inspection, and two deputies have gone over the various works each day, as a result of which the objectionable features have been eliminated. For many years the foul odors from this island have been the despair of the inhabitants in the vicinity. Governor Roosevelt has appointed a special commission to investigate the plant.

The annual meeting of the Society of St. Luke's Hospital was held at the hospital October 17th. The annual report was read. During the year ending September 30, 1899, 2703 patients were treated. Of these 507 paid full rates, 334 paid part rates, and 1862 were non-paying. The total expenses for the year were $167,910.53. There was a deficit in current expenses of $68,648.30. Gifts and donations were received by the hospital for the endowment amounting to $227,750.

A suit has been brought by the New York University Medical School against the Cornell Medical School to compel the latter to grant the students of the former school the privileges of the Loomis laboratory. This suit was brought before Justice Truax of the Supreme Court on October 20th. George A. Strong, Esq., counsel for the New York University School, based the rights of his client in a great degree on the following statement of Dr. Alfred L. Loomis, recorded in the minutes of a meeting in the spring of 1887:

"About one year ago a gentleman gave me a power of attorney to spend $100,000 for him in the erection and equipment of a laboratory building for the exclusive use of the faculty and students of the medical department of the New York University. He designated that it should be known as the Loomis Laboratory of the Medical Department of the New York University; that, when completed, it should be handed over to a board of trustees, which should hold it for the use of the faculty and the students, as already indicated; that in everyway, as might from time to time be indicated by the faculty, it should be used to increase the teaching facilities of the medical department of the university; that if at any time the council of the university shall assume the pecuniary obligations of the faculty and take the college building, the trustees of the laboratory may transfer the laboratory property to the council. In accordance with the wishes of the donor I have had a bill introduced in the Legislature, incorporating the laboratory, with the following board of trustees, viz., D. Willis James, F. L. Stetson, C. E. Miller, A. L. Loomis, and H. P. Loomis. The two last names were insisted on by the donor. . . .

"The donor will give the faculty any legal documents which they may wish, guaranteeing to them that the laboratory and its equipment shall always be for their use in laboratory teaching. It is understood that the trustees are to be simply the custodians of the property and of any endowment which the laboratory may receive."

Mr. Willis H. Paine was the donor referred to. Among other things the plaintiff cited that the laboratory building bears upon the front, carved in stone, in letters a foot long, the name of New York University, placed there by Dr. Alfred L. Loomis, who gave an endowment to the laboratory amounting to $25,000. Charles E. Miller, Esq., counsel for the Cornell School, stated that the Loomis Laboratory denied there ever was any such trust as the one alleged, and that the property was conveyed to the defendant for the promotion of original research in chemistry, biology and pathology, and for elementary teaching in those branches, under such regulations as the board of trustees should, from time to time establish; that it has always been so used, according to chapter 329, laws of 1887, under which it was incorporated.

In 1897 there came a split in the medical faculty of the New York University, many of its members going to Cornell. A majority of the governing faculty went to Cornell, and for two years the Loomis Laboratory has been used for Cornell students. New York University has tried to obtain the use of the building, but could not do so; hence the suit.

Justice Truax was prepared to decide at once, but at the request of plaintiff's counsel he reserved decision for three weeks in order to give counsel time to submit briefs.

The Health Department submits the following report of contagious diseases for the week ending October 21, 1899: Measles, 140 cases and 3 deaths; diphtheria, 188 cases and 29 deaths; laryngeal diphtheria (croup), 8 cases and 5 deaths; scarlet fever, 116 cases and 6 deaths; smallpox, 3 cases and 0 deaths; chicken-pox, 19 cases; tuberculosis, 179 cases and 134 deaths; typhoid fever, 72 cases and 22 deaths; cerebrospinal meningitis, 2 deaths. Total, 725 cases and 201 deaths.

Insurance against Illness.—Nearly 8,000,000 persons in Germany belong to the Krankenkassen, or, in other words, are insured against illness. One-third of these reported illness in 1898, the average duration being seventeen days, which, taking the average of wages at only fifty cents a day means a loss of nearly $24,000,000 a year.

MEDICAL MATTERS IN PHILADELPHIA.

AN ATTEMPT TO EXTEND THE PRIVILEGES IN POST-MORTEM STUDIES—FRESH OUTBREAK OF SMALLPOX—THE PHILADELPHIA PATHOLOGICAL SOCIETY, ELECTION OF OFFICERS—THE DIAGNOSTIC VALUE OF GALL-STONE CREPITUS—GLANDULAR INVOLVEMENT IN SCARLET FEVER—THE QUESTION OF PUBLIC-SCHOOL FILTERS—THE SALARIES OF DISTRICT PHYSICIANS—HEALTH REPORT.

PHILADELPHIA, October 23, 1899.

THE attempts which are now being made by the more progressive members of the Board of Charities and Corrections, the governing body of the Philadelphia Hospital, to secure for the benefit of medical students more extended privileges in post-mortem studies in this institution, are being vigorously opposed by certain other members of the Board who believe that the medical student-body should be denied the proposed opportunities for practical instruction in pathological histology. Such opposition is traditional at Blockley, and the gentlemen who are at present renewing the fight for the medical student are simply rehearsing ancient points of contention, but with, let us trust, more tangible hopes for the success of their efforts than have been obtained by their predecessors. Dr. Joseph S. Neff, who represents the progressive element of the Board, contends for the adoption of a resolution permitting the attending pathologist of the hospital to utilize the pathological specimens at that institution and to make autopsies for the purpose of instruction, suggesting that a committee of pathologists be appointed to select appropriate pathological specimens for demonstration, with, as in the past, the invariable rule that permission of the deceased patient's family is obtained in every instance before the post-mortem examination is held. The contention of other members of the Board is that the benefits to be derived from the study of morbid specimens should be confined to members of the hospital's medical staff. Unfortunately, from the present complexion of affairs, the friends of the medical student appear to be still in the minority, and the extramural use of pathological material at Blockley must continue to remain a proscribed privilege.

The preparations recently made by the health authorities to cope with the predicted outbreak of smallpox this fall have already been called into service. During the past week the expected outbreak occurred, and from a single house eleven persons, half of whom were affected with the disease, were removed to the isolation wards of the Municipal Hospital. No fear is entertained that the outbreak will spread, for appropriate measures were at once put in force to stamp out the pest, and to prevent its dissemination in the neighborhood.

At the last meeting of the Philadelphia Pathological Society, held October 12th, the following officers for the ensuing year were elected: President, Dr. Frederick A. Packard; vice-presidents, Drs. Joseph McFarland, Charles W. Burr, Alfred Stengel, and W. M. L. Coplin; secretary, Dr. J. Dutton Steele; treasurer, Dr. Thompson S. Westcott; recorder, Dr. David Riesman; curator, Dr. W. Wayne Babcock. Committee on Morbid Growths, Drs. W. S. Robertson, David Riesman, and Thomes S. Kirkbride, Jr. Committee on Membership, Drs. Alfred Hand, A. O. J. Kelly, and Joseph H. Jobson. Committee on Publication, Drs. Alfred Stengel, A. A. Eshner, and Joseph McFarland. Business Committee, Drs. A. C. Abbott, Joseph Sailer, David L. Edsall, John M. Swan, and H. R. M. Landis. The annual address before the Society was delivered by the retiring president, Dr. W. E. Hughes.

The diagnostic value of gall-stone crepitus and friction was the chief subject of discussion at the last meeting of the Philadelphia County Medical Society, held October 11th. Dr. J. M. Anders, who presented a paper upon this topic, argued the value of this sign, especially in cases of cholelithiasis in which, from the absence of all clinical signs save perhaps jaundice, due to obstruction of the common duct by a gall stone, the diagnosis was often extremely difficult. In such instances, the speaker maintained, in spite of the absence of other clinical symptoms, the condition might be frequently recognized by detecting, either by simple palpation or by ausculatory palpation, a quite evident friction and crepitus over the site of the lesion. Dr. Mordecai Price mentioned the occurrence of a somewhat similar crepitant sign produced by the rubbing together of the enlarged glands in carcinoma; and Dr. S. Solis Cohen summed up the value of the signs, as aids in the recognition of cases presenting atypical clinical symptoms, which, if diagnosed at an early period, may often be treated with success.

The glandular involvement in scarlet fever was the subject of a series of investigations recently completed by Dr. J. F. Schamberg, the results of his study being presented at the last meeting of the Philadelphia Pediatric Society, on October 10th. Dr. Schamberg found, from the study of 100 cases of scarlet fever, that the various lymphatic structures were affected in the following percentages: inguinal glands, 100 per cent.; axillary glands, 96 per cent.; maxillary glands, 95 per cent.; anterior cervical glands, 44 per cent.; submaxillary glands, 36 per cent.; epitrochlear glands, 26 per cent.; and sublingual glands, 25 per cent. No definite diagnostic value could be attached to the conclusions reached by the speaker, save for the fact that in most cases of erythematous eruptions associated with diphtheria the glandular involvement was much less widespread.

The question of public-school filters is apparently dead and buried, in spite of the elaborate tests made of these instruments, the flowery promises of the Councilmen entrusted with their selection, and the $75,000 appropriation available for their purchase and introduction. Councils' committee and the Board of Education being involved in the throes of a heated and entirely hopeless discussion over certain trifling technicalities of the question, the subject seems quite hopeless of solution. Meanwhile the schools have again opened for the winter session, and the pupils must perforce imbibe Schuylkill water in virgin turbidity—until general filtration of the water-supply of the whole town becomes an established fact.

A committee representing the fifty District Physicians of this city has recently presented an argument to the authorities asking for an increase of salary, which at present amounts to the munificent sum of $20 per month. The committee contends that District Physicians are the poorest paid employees connected with any municipal department, and that, at their present rate of pay, their average fee for each visit does not amount to more than ten cents. This, they claim, is highly unjust, and request that a salary of $60 per month be allowed to each physician engaged in district charity practice under the regulations of the City Board of Charities.

The total number of deaths in this city for the week was 384, or an increase of 2 over the number reported last week, and a decrease of 5 from the corresponding week of last year.

ANNOUNCEMENT.

THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

PARIS, 2D TO 9TH OF AUGUST, 1900.

THE American Committee of the Thirteenth International Medical Congress met at the University Club, Philadelphia, October 21st, at 3 P.M., at the call of Dr. William Osler. Present: Dr. W. W. Keen, president of the American Medical Association (in the Chair); Dr. George M. Sternberg, Surgeon-General of the United States Army; Dr. Wm. K. Van Reypen, Surgeon-General of the United States Navy; Dr. Walter Wyman, Surgeon-General of the United States Marine Hospital Service; Dr. Horace G. Miller, president of the American Otological Society; Dr. E. D. Fisher, president of the American Neurological Association; Dr. George J. Engelmann, president of the American Gynecological Society; Dr. H. W. Stelwagon, president of the American Dermatological Association; Dr. Samuel Johnston, president of the American Laryngological Association; Dr. R. F. Weir, president of the American Surgical Association; Dr. A. Jacobi, president of the American Climatological Association; Dr. E. G. Janeway, president of the Association of American Physicians, and Dr. Henry Koplik, president of the American Pediatric Society.

Letters of regret at inability to attend the meeting were reported from Dr. H. P. Bowditch, president of the Congress of American Physicians and Surgeons (absent in Europe); Dr. O. F. Wadsworth, president of the American Ophthalmological Society; Dr. James Bell, president of the American Association of Genito-Urinary Surgeons; Dr. H. M. Sherman, president of the American Orthopedic Association; Dr. R. H. Chittenden, president of the American Physiological Society; Dr. B. G. Wilder, president of the Association of American Anatomists, and Dr. B. Holly Smith, president of the American Dental Association.

Dr. Osler stated that in May he had received instructions from the Secretary of the Congress in Paris to organize the American National Committee. After consultation with Dr. W. W. Keen, the President of the American Medical Association, and Dr. H. P. Bowditch, the President of the Congress of American Physicians and Surgeons, he had nominated as members of the Committee the Presidents of the American Medical Association, of the Congress of American Physicians and Surgeons, and of the constituent societies composing the same, the Surgeon-General of the Army, of the Navy, and of the Marine Hospital Service, and, at Dr. Keen's suggestion, the President of the American Dental Association. Dr. Sternberg moved, seconded by Dr. R. F. Weir, that the American Committee of the XIII. International Medical Congress consist of the gentlemen just named. Carried.

Dr. Osler then read the following letter which he has received from Dr. Chauffard, the General Secretary:

"Honored Colleague: I have the honor to state that I have sent you—(1.) A package of subscription blanks ("Forms of Adhesion"). (2.) Some account books with stubs. Please insist that your fellow-countrymen conform to all the directions which are therein contained.

"Pray distribute, together with our subscription blanks, announcements of your own, indicating the name and address of the representative of your committee to whom the subscribers in your country should address the subscription blanks when filled, as well as the corresponding funds. It is then understood that these blanks constitute simply a sort of propaganda, and that we shall consider as members of the Congress only those gentlemen who shall have sent to your committee the amount of their subscription, and shall have received in exchange the receipt from your account book (leaflet C). . . ."

It will thus be seen that the work of each National Committee of this Congress is very different from that heretofore intrusted to them. Physicians in this country who wish to become members of the Congress must apply to the Secretary of the National Committee, who will forward a blank of application, which is to be filled in and returned to the Secretary, with a fee of five dollars.

Dr. Janeway moved, seconded by Dr. Wyman, that Dr. Osler be empowered to appoint a physician as Secretary to the Committee, and to secure such aid as would be required to carry on the work. The question of meeting the expenses of the Committee was left to the Chairman. If each National Committee is expected to meet its own expenses it was agreed either to call upon the Treasurers of the Societies represented in the Committee, or upon the individual members. It was moved by Dr. Engelmann, seconded by Dr. Stelwagon, that the medical journals of the country be requested to aid in making known as widely as possible the conditions under which registration in the Congress may be effected.

Dr. Osler announced that he would nominate Dr. Henry Barton Jacobs, 3 West Franklin street, Baltimore, Md., as Secretary of the Committee, to whom all applications for blanks should be sent.

While it is to be understood that the Central Committee wishes the subscriptions to be sent to the Secretary of the National Committee, Rule 3 of the Congress provides that persons wishing to be members may forward their subscriptions to the Treasurer-General of the Congress.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

TYPHOID IN THE DUBLIN POLICE-BARRACKS—ELECTRIC LIGHT FROM DUST—SALT-FISH POISONING—ELECTRIC BATHS IN LEAD-POISONING—FATAL MISTAKE BETWEEN BOTTLES—A NEW VARIETY OF TRAINED NURSE—HYPNOSIS BY THE X-RAYS—INCREASE OF VACCINATIONS UNDER THE CONSCIENCE CLAUSE—TUBERCULOSIS AMONG ENGLISH DAIRY COWS—OPENING AT THE LONDON POLYCLINIC—A CELEBRATED MEDICINE MAN—NORMAN KERR'S SUCCESSOR.

London, October 15, 1899.

There appears to be little question that the typhoid fever, the outbreaks of which are becoming a chronic scandal in Dublin, and which has just spread to the police barracks and numbered several constables among its victims, is due to an infected milk-supply. The attention of the Nationalist City Council has been repeatedly called to the fact and its cause, but as any active interference with the notorious filthiness of the dairies would certainly seriously offend their good friends and supporters, the milkmen, and incidentally uncover other troubles, municipal uncleanliness besides, they decline, Tammany-like, to do anything in the premises.

Anything which makes sanitation and municipal cleanliness easier and less expensive is of the highest value. Now that sewage-farms have made the liquid waste of a great city an actual source of income, it only remains to attack the problem of the dry refuse, technically known as "dust," but consisting largely of paper, straw, packing-materials, packing-boxes, husks, etc., which accumulate at such an appalling rate in the streets and yards of a great city. The annual report of the electric-light plant at Shoreditch Vestry calls attention in the most striking manner to a solution of this problem. Two years ago the Vestry inaugurated an electric-light service, using as motive power the heat from its dust destructors and furnaces. Success at that time appeared too good to be true, but the first year was unexpectedly favored with a surplus of income of nearly ten thousand dollars, and that this was no flash in the pan has been proved by the result of the second year with a credit balance of nearly twenty-seven thousand dollars, and this has been accomplished solely by the destruction of no less than 23,000 tons of refuse. Now that it has proved a success, the surplus is to be applied very properly to the reduction of rates to the consumers of the light. Really as wonderful things are made out of the dust of the earth nowadays as of old in the Garden of Eden. It is to be hoped that the brilliant example of Shoreditch Vestry will be widely followed.

A most curious case of poisoning has been reported from Liverpool. In one neighborhood no less than five working women died suddenly with symptoms of food-poisoning within a few days of each other, and upon investigation it was found that all the deceased had dined one day on salt fish and potatoes at a stall in St. Martin's Market. A bacteriological examination of the bodies by Professor Stewart of University College, revealed the fact that the poisoning was due not to ready-found ptomains, but to the introduction of a bacillus. This is rapidly coming to be regarded as the actual state of affairs in most cases of so-called meat-poisoning, sausage poisoning, and so forth. The bacillus belonging to the typhoid group and closely resembling what has long been known in the laboratories as the "rabbit septicemia organism," usually produces its effect with great rapidity, but may exhibit an almost typical typhoid course, which accounts for the disputes and perplexities which have arisen over various cases of meat poisoning, as to whether the disease were a half intoxication or merely an outbreak of typhoid, as in the celebrated case at Sabina, Iowa, in which forty or fifty guests at a wedding banquet who had partaken of a chicken salad were attacked by what seemed to be in many cases typical typhoid, so that this claim was actually set up as part of the defence in the numerous damage suits that were brought.

Public attention is being called to the most encouraging results obtained by baths and other forms of electric treatment in the case of victims of lead-poisoning, of which so much has been heard of late. One establishment in Wolverhampton has attained a great celebrity throughout the pottery district in this respect, and no less than thirty-one cases of this distressing condition have been treated there in the past four months. Of these, twenty-four patients are said to have been cured and five others remarkably improved, so that with this and the prospect of reformatory legislation the workingmen in this dangerous trade are beginning to feel much more cheerful about their prospects.

It appears that our supposition as to the cause of the poisoning of Dr. Dick by his own medicine, reported in our last letter, was not supported by the evidence given at the inquest, in so far as a repetition of an intended dose of the alkaloid was concerned. The unfortunate man stated before his death that he had not put a particle of strychnin into the medicine, the only colorless fluid which he had used being, as he alleged, a mixture of chloroform. As the mixture contained an abundance of strychnin, and no chloroform whatever, the mystery was only solved upon going to the dispensing shelves in his surgery and finding there two bottles of colorless solution one above the other, the upper containing chloroform water and the lower strychnin. Obviously one bottle had been picked up in mistake for the other, and although both were labeled, the lower did not have a poison label or mark upon it, an omission which we fear is all too common in the case of similar poisonous solutions on our own shelves. Had it been so labeled, there is a possibility that it might have caught his eye and the mistake been avoided, although unfortunately the mistake would still have been easily possible, as some of us can testify through painful experience or narrow escapes. The recommendation of the Coroner's Jury in commenting on this unfortunate omission, however, ought to be promptly heeded and acted upon both by the profession and the legislators, and that is that all poisonous solu-

tions should be kept in deeply fluted bottles. One may fail to look at the bottle which he is using, but he must touch it in order to do any harm with it, and if this touch alone will report upon or remind you of its nature, mistakes will be almost impossible.

An excellent scheme which will command the cordial approval of all members of our profession has just been set on foot by the ladies of the Sanitary Association of Liverpool. This is the formal training of young women of refinement and education for the care of young children. The need and value of such a class of nurses is too obvious to need comment. Hitherto there has been a serious gap between the trained obstetric nurse of the first few months and the hospital trained nurse only available in case of sickness or invalidism. Intelligent, scientific, and above all refined care and oversight of the details of the life of young children has a value which can hardly be overestimated. The new nurses are to be trained in the proper making and fitting of children's hygienic clothes, the sanitation of the nursery, the principles of feeding, and also in the elements of the kindergarten system. A similar institution was organized at Norwood in London a couple of years ago, and has met with great success.

The field of women as hospital physicians is steadily widening. Week before last the Hospital board of Govan, a district of Glasgow, appointed Miss Augusta Boyes, M.D., Ch.B., as resident physician to its Fever Hospital, at the same time raising the salary attached to the appointment. Last week the Edinburgh Victoria Hospital for Consumptives also appointed a lady, Dr. Anne Mercer Watson, as resident physician.

Another unexpected effect of a "bye-product" of the X-rays has just been reported by Mr. Harrison Low in a demonstration at the London Polyclinic, namely, a production of hypnosis, especially in young children. He found in two cases in children and one in an adult that by the time the skiagraph had been taken they were in a nearly comatose condition, having shallow respiration, dilated pupils, and pallid skin; in fact the first patient was in such a curious state and required so much rousing that he was quite alarmed until he recognized the true nature of the condition. In all of the three cases it occurred while the patients were lying upon their backs on the photographic table, having a picture of the hips or knee-joints taken, and of course, gazing with the eyes in a somewhat strained position steadily at the eery, rapidly alternating, greenish flicker of a Crookes' tube would furnish ideal conditions for the production of hypnosis.

The vaccination movement is going steadily forward in spite of opposition and risky conscience clauses. Indeed, the latter appears to have even almost improved the situation, as the report of the first six months under it shows an excess of nearly 75,000 vaccinations over a similar period in the previous year. The antis, robbed of their battle-cry of tyranny and oppression, and pretty well discredited on vivisection grounds by the rapidly growing public appreciation of the value of the results of animal experimentation in diphtheria and consumption, are now desperately hunting a new war-cry, and as Mr. Chaplin has finally issued a mandamus to compel the Leicester Board of Guardians to appoint a Vaccination Officer, they think they have here found what they need in the shape of a side issue on "interference with local self-government" by the central authority. While it might have been more judicious on Mr. Chaplin's part to avoid treading upon the tail of the coat so ostentatiously trailed upon the ground before him by the pugnacious Guardians, yet as the matter stands he could hardly avoid taking action and the mind of the public will appreciate the real issue, in spite of the clouds of "local-government" dust which may be raised to obscure it.

The Health Congress at Blackpool, which recently closed its sessions, was in no way remarkable from any point of view. In fact, to the professional eye its proceedings seemed tame and trite, but then of course, the dear public likes and needs elementary pabulum to feed its interest in these subjects. Probably the nearest approach to anything new was the statement of Professor Penberthy of the Royal Veterinary College, London, that 30 per cent. of English dairy-cows are tuberculous, a statement which, though startling, is we fear, supported by all the data available, including the testing of milk-samples for bacilli, carried out by Kanthack just before his death, and Delepine's later experiments, showing their presence in 15 per cent. and 20 per cent. of the samples respectively. But it is far from proven as yet that even such bacilli-laden milk is infectious to man, although this fact is usually taken for granted.

The October term of the London Polyclinic opened with a fair enrolment of students and members. These latter now number more than 500. Clinical demonstrations will be held every afternoon during the winter, and American and Colonial members of the profession are cordially invited to visit these during their stay in London.

Members of our profession sometimes obtain an unexpected celebrity in other fields, and a case in point is the "American Hercules" now exhibiting in London as a champion "strong man" and rival to Sandow. He is said to be a graduate of Harvard Medical College, and to have been in actual practice two years, but left it for a more lucrative and fame-bringing occupation. He claims to be a grandson of Sitting Bull, the renowned Sioux Medicine Chief, so that he is of the profession by blood as well as by education.

The Society for the Promotion of the Study of Inebriety has just filled the vacancy left by the death of their famous president and founder, Dr. Norman Kerr, by the election of Dr. Wynn Westcott.

A most absurd and exasperating instance of "Justices' justice" was recently afforded in Southwark. Samples of ice-cream were seized on suspicion of injuriousness and submitted to analysis. The Public Analyst at London, Dr. Stevenson, a scientist of world-wide reputation, reported them to be swarming with bacilli, among them the bacillus coli communis. Suit was brought but upon the counsel for the defense eliciting from Dr. Stevenson that the examination had not been made by him personally but by his bacteriological assistant, Dr. Parks, the local Dogberry refused to receive his certificate as evidence!

TRANSACTIONS OF FOREIGN SOCIETIES.

THIRD INTERNATIONAL CONGRESS OF GYNECOLOGY AND OBSTETRICS.

RELATIVE VALUE OF ANTISEPTICS AND TECHNIC IN PRODUCING GOOD RESULTS AFTER OPERATION—TREATMENT OF UTERINE RETRODEVIATIONS—HYSTERECTOMY FOR FIBROMATA — COMPARISON OF CÆSARIAN OPERATION, SYMPHYSIOTOMY, CRANIOTOMY AND PREMATURELY INDUCED LABOR—TREATMENT OF UTERINE CANCER—REMOVAL OF THE UTERUS IN CASE OF DOUBLE ADNEXAL SUPPURATION—TREATMENT OF GYNECOLOGICAL FISTULÆ—PREVENTION OF ASPHYXIA DURING LABOR.

THE Third International Congress devoted to gynecology and obstetrics was held at Amsterdam, August 8th to 12th. The first paper was read by RICHELOT of Paris, on the relative value of antisepsis and technic in securing perfect operative results. He said that to rely upon antisepsis is a mistake because even the best antiseptics are insufficient to prevent either primary or secondary infection. Furthermore, antiseptics are dangerous in that they interfere with the union of wounds, while producing cellular necrosis, they prepare the way for points of infection. Of the sterilization of instruments and materials used he had only good words to say, but he emphasized the difficulty of its perfect accomplishment. Finally, one has to place his reliance upon the power of Nature to heal, hence the importance of employing the best technic. One should reject every instrument which is useless. Dexterity, ingenuity, and judgment are the qualities which make for success. Gynecological methods of procedure have been simplified and the results have been proportionately improved. Any one of the major pelvic operations may be taken as an illustration of this point. for example, hysterectomy. A still further advance in technic will give a new impulse to conservative gynecology by enabling the operator to substitute for the extirpation of organs, therapeutic measures more delicate but equally successful in removing the cause of the trouble.

HEINRICIUS of Helsingfors opened a discussion on the treatment of uterine retrodeviations. As retrodeviations almost always co-exist with inflammatory troubles, it seemed to him natural to think that the symptoms under these circumstances are due to a chronic inflammation in the form of metritis, perimetritis, etc., rather than to the abnormal position of the uterus. Consequently he looked upon treatment directed solely to correction of the displacement as absolutely useless.

ZIEGENSPECK of Munich said that a false position of the uterus alone, by twisting of the vessels, is quite capable of accentuating the difficulties due to an abnormal pelvic circulation. It can also increase the risk of infection.

GOLDSPOHN of Chicago denied that intervention to remedy false positions of the uterus is a useless procedure. In cases in which uterine retroversion of a non-infectious character is complicated by pelvic adhesions, he finds it necessary besides shortening the round ligaments to enlarge the internal inguinal ring with the fingers or a dilator and through this opening to free the uterus from its pelvic adhesions. If the adnexa are diseased he draws them out through the inguinal opening and performs whatever operation may be indicated. This accomplished the inguinal canal is closed with four layers of sutures, the second of which is made to include the round ligament, which is fastened to the posterior side of the femoral arch. Operating in this manner he has had more than 150 cures, one-third of which were confirmed by examination of the patient more than eighteen months after operation.

DOYEN of Paris said that phlebitis, albuminuria, intestinal obstruction, and malignant degeneration of the fibromatous uterus, so far from being contraindications for operative treatment, rather render immediate operation absolutely necessary. It is rarely of service to remove an isolated myoma either by the vagina or by laparotomy. When multiple fibromata are present, vaginal hysterectomy is indicated, if the uterus is easily movable, and especially if the vagina is large or if the patient is so stout that a laparotomy may be difficult. Under other circumstances the abdominal operation is preferable. Since Doyen has employed the ecraseur and has substituted ligatures for clamps, he has performed fifty two hysterectomies for fibroma. The vaginal operation was performed upon twenty-seven patients, all of whom recovered; while of the remaining twenty-five patients on whom abdominal hysterectomy was performed one died.

BALDY of Philadelphia expressed himself in favor of supravaginal amputation of the uterus and suture of the peritoneum over the stump, without abdominal drainage. This method is applicable in all cases. Preservation of the cervix is an advantage in that it reduces the chances of infection and preserves the normal shape of the vagina.

JACOBS of Brussels said that hysterectomy for fibroids is contraindicated in the presence of extreme anemia, Bright's disease, degeneration of the tumors, with serious changes in the abdominal viscera, and carcinoma of the cervix. The mortality after abdominal hysterectomy as performed by him is three per cent. His practice is to amputate supravaginally and then to remove the cervix except in certain instances in which the cervix is normal. Hemorrhage is controlled by an electrical apparatus.

ALEXANDER of Paris said that total hysterectomy is unnecessary if a fibroma is of less than two-pounds' weight. Enucleation of a fibroma is a far less formidable operation than hysterectomy, and it should especially be performed if the patient is young. He has enucleated as many as twenty-five fibromata at one time. Doubtless some fibromatous nodules remain under such circumstances, but he has never observed a recurrence of the trouble. At any rate it is better to run the risk of recurrence a second and even a third time than to remove the uterus.

TREUB of Amsterdam thinks that the treatment of fibromata by injections of ergotin and electricity is too generally neglected. By these means he has obtained a certain number of incontrovertible successes in cases in which the tumors were of moderate size, soft, and did not give rise to hemorrhage.

PINARD of Paris compared the Cæsarian operation,

symphysiotomy, craniotomy, and prematurely induced labor. He inclines toward the Cæsarian operation with suture of the uterus and abdominal wall, rather than to hysterectomy. Symphysiotomy was practised 100 times in the Beaudelocque Clinic from 1892 to 1899. There was a mortality among the mothers of 12 per cent. and among the children of 13 per cent. Twenty-two of the mothers again became pregnant and six of them were a second and even a third time subjected to the operation, while the other sixteen gave birth spontaneously. Eighty-one craniotomies occurred in the speaker's service from 1882 to 1899 producing a maternal mortality of 11 per cent. A comparison of the best statistics shows that after prematurely induced labor the infant mortality is about 30 per cent. and that of the mothers is 2 per cent. or less. These results should assist the obstetrician in deciding the proper measure to be carried out in any particular case. The opinion is universal, however, that if the contraction of the pelvis is extreme Cæsarian section should be performed. Such cases are rare. When there is a moderate amount of pelvic contraction symphysiotomy is preferable to Cæsarian section.

Reynier of Paris in discussing the treatment of uterine cancer said that vaginal hysterectomy is being laid aside for the operation by the abdominal route. By the latter method one can determine the exact extent of the tumor, and can operate successfully in cases in which it would be unjustifiable to operate by the vaginal route. Even when the lesions are plainly of a limited extent, abdominal hysterectomy facilitates the complete emptying of the pelvis which is just as indispensable to the cure of cancer in this locality as is the clearing out of the axilla in cancer of the breast.

Jacobs of Brussels said that the abdominal operation is the only one which should be performed in the treatment of cancer of the uterus. During the past eighteen months he operated upon twenty-three patients, twenty-two of whom recovered from the operation, while up to the time of report no recurrence was evident.

Janvrin of New York gives preference to the vaginal operation, but he refuses to operate unless the disease is limited to the cervix or to the fundus or to the endometrium. In the operations performed by him from 1883 to 1896 in accordance with these principles he was able to obtain thirty-three successes in 100 cases.

Hartmann of Paris said that patients whose adnexa have been removed for double suppurative troubles find themselves much improved, but, nevertheless, after exertion suffer from pain in the lower part of the abdomen, renal difficulty, leucorrhea, and occasionally from hemorrhage. Examination under these circumstances shows a persistent metritis with small indurated nodules in the pedicles. To complete the cure extirpation of the uterus is necessary. The vessels in the pedicles should be ligated separately, and the peritoneal wounds stitched together to restore the pelvic floor. If possible one ovary should be left to save the patient from the troubles due to a premature menopause.

Faure of Paris expressed himself in favor of the abdominal route in chronic adnexal suppuration as permitting the surgeon to perform a more accurate and complete operation. In certain acute or subacute cases in which the pus has a particular virulence, vaginal hysterectomy is preferable as less likely to result in peritonitis.

Doyen of Paris spoke of gynecological fistulæ which he divided into those occurring spontaneously and those resulting from operation. The former are due to labor, obstetrical operations, pelvic suppuration, and the presence of some foreign body in the uterus or bladder. For fistulæ of the bladder or ureter he has never found it necessary to perform a laparotomy. This is the proper operation in cases of intestinal fistula whether it opens into the bladder or through the skin or into the vagina. In Trendelenburg's position the fistula should be dissected, the intestinal coil freed, withdrawn, and the opening into it closed with Lembert sutures.

Rapin of Lausanne said that asphyxia of the infant during delivery may be prevented by the introduction of air into the uterine cavity by means of a metallic or a soft rubber catheter. The air injected should be sterilized, and the quantity should not exceed in most cases 600 c.c. Gaseous embolism is not to be feared, for the air does not enter the uterine cavity but the amniotic cavity.

SOCIETY PROCEEDINGS

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held October 5, 1899.

The President Dr. William H. Thomson in the Chair.

The paper of the evening was read by Dr. Virgil P. Gibney, and was entitled

CERTAIN ASPECTS OF BONE AND JOINT DISEASE OF INTEREST TO THE GENERAL PRACTITIONER (see page 545).

In discussing the paper Dr. Abram Jacobi asked the author if he had understood him to say that sarcomata sometimes occur which do not fluctuate. Dr. Gibney replied that localized points of fluctuation are the most characteristic physical signs of sarcomata. Dr. Jacob said that a sensation of at least semi-fluctuation is pathognomonic of sarcomata. Ordinary fluctuation occurs, of course, in cystic sarcomata and in mixed tumors containing cysts even though they be small ones, but this semi-fluctuation occurs even in sarcomata that are not in the least cystic. With regard to the confounding of scurvy with joint or bone lesions, it is not at all uncommon. There are two affections occurring in children for which scurvy is particularly mistaken: acute rheumatism, and acute anterior poliomyelitis. There is practically no reason at all why scurvy should be confounded with the latter disease. There is, of course, absence of movement in the limbs in both cases, but in anterior poliomyelitis this is due to inability to move them because of palsy. In scurvy the failure of movement is due to pain. This can very easily be decided by passive movements. The mistaking of scurvy for acute rheumatism is a little more justifiable and the two conditions are not so easy to dif-

ferentiate. In scurvy, however, the hemorrhage is not into the joint and not into the epiphysis, but practically always into the diaphysis of the long bones. It is true blood extravasations occur at times over the tissues and occasionally even over the carpus, but these are rare exceptions. If the bones are protected from motion it will be found that the joints in scurvy may be freely moved. It is true, that at times in scurvy hemorrhage occurs into the joints, and this may almost hopelessly confound the disease with rheumatism, but these joint hemorrhages are very rare. In his last fifty cases of scurvy the speaker had seen but three.

Rachitis is very important as a source of bone and joint disease because of the deformities it produces in these structures, but still more so because of the deformity of all the internal organs that it gives rise to. There is scarcely a single internal organ that does not suffer. The heart and lungs are especially interfered with. In the scoliosis of rachitis the lungs are greatly crowded, their arteries are interfered with, and their nutrition impaired, so that rachitic children suffer for this reason a good deal from bronchitis and other pulmonary affections. The aorta is often distorted and in severe scoliosis may be quite bent upon itself by the pressure of the lungs. The heart itself is more exposed in the triangular rachitic chest than in the normal elliptical thorax; less of it is covered by lung anteriorly and it is more pressed against the anterior thoracic wall. It seems as a consequence of this to be hypertrophied. It gives a larger area of dulness and a more diffuse and forcible apex beat than the normal heart, but the hypertrophy is apparent not real.

It must be borne in mind, however, that not only the intrathoracic organs suffer and become deformed in rickets but that the abdominal organs are also affected. The lack of room in the thorax leads to the crowding down of the liver and spleen. Their circulation is interfered with, their nutrition lowered and they are left much less capable of resisting toxic and infectious agents of all kinds. The liver is pressed down upon the stomach and the functions of that organ seriously hampered. The kidneys are displaced and the interference with their circulation and the malnutrition induced by pressure leads to nephritis. It is very important to have a knowledge of these changes, not so much in order to be able to recognize them after they have occurred as to prevent their occurrence. After all rickets is perfectly amenable to treatment at the beginning. This should not be delayed until a serious condition has developed but should be begun early in the affection. Even slight forms of rickets may give rise to serious organic deformity.

Dr. Joseph D. Bryant said that in all cases of trauma the condition of the patient at the time of the occurrence is of the utmost importance. A slight injury may in states of lowered resistive vitality be followed by serious consequences. It has often been remarked that slight injuries are apt to have more serious after consequences than severe ones. Something of this is due to the care that is bestowed upon the severer forms of injury. Even the slightest injuries occurring in people in delicate health should be most carefully treated.

With regard to sarcomata of bone it is almost marvelous how often they are taken for something else. In this matter the relation of slight injury to the after development of sarcoma as pointed out by Coley should be borne in mind. It may occur after very slight injury but may follow severe injury. In a recent case a man of seventy-nine hurt the anterior femoral surface in rising from a table. For some time the muscles were sore. This passed off completely. About four or five weeks afterward there was a recurrence of pain which was thought now to be due to rheumatism and was treated as such. Some relief seemed to be afforded by hydrotherapic treatment at watering-places and later by electrical treatment. After four months, however, the tumor had become the most prominent symptom. One night in turning over in bed a fracture of the femur occurred. It was considered to be due only to the ordinary senile tendency to fracture and was treated simply as such. When finally a consultation was held there was marked fluctuation all over it and yet the true condition of sarcoma was unsuspected. Whenever swelling occurs without inflammatory symptoms a neoplasm should be suspected. It must be remembered that in sarcomata a local increase of temperature is not unusual and slight constitutional febrile movements also occur.

Rheumatism is the affection that is diagnosticated in many of these cases that later prove to be either malignant or tubercular, so that a good deal of hesitation should be the rule in making the diagnosis of rheumatism unless there are some characteristic symptoms. On the other hand it must not be forgotten that the inactivity necessitated after trauma during treatment sometimes predisposes to rheumatic affections.

Necrosis of bone often develops after seemingly inadequate causes. The speaker had seen three cases of necrosis at the lower posterior part of the femur, which somehow were the result of trauma at that site and the patients could scarcely be sure of the cause. In all of these the diagnosis had been rheumatism. Even after the occurrence of abscess this diagnosis was persisted in and in one case the opening of the abscess had led to puncture of the popliteal artery and a fatal termination. These necrotic conditions are evidently worth looking for carefully when there are obscure conditions in the popliteal region.

In affections of the hip-joint, though the fact is so constantly pointed out, it is still forgotten that the pains are apt to be referred to the knee. Here is where the diagnosis of rheumatism and of growing pains are especially liable to be the refuge of the careless physician. Absolutely nothing can be found at the joint itself, hence the tentative diagnosis. In general whenever the nerves to to any part pass over a joint before they reach the part in which the pain exists, it is important to examine the joint in question carefully before coming to any diagnostic conclusion as to the cause and source of the pain. This rule will often be of great service in tubercular cases, especially in obscure affections of the spine. In these cases pain is often referred to the epigastrium or other parts of the abdomen.

Dr. Charles N. Dowd said that, struck by the num-

ber of cases of serious bone and joint disease the diagnosis of which had been mistakenly made as sprain or rheumatism and the treatment for these affections applied, he had collected the statistics of some recent cases at St. Francis' Hospital. Out of ten cases of tuberculosis of the ankle-joint, seven were considered sprains when the first symptoms appeared and the history of an injury was considered the main feature of the case, though careful inquiry elicited the fact that some symptoms existed prior to the injury. Out of ten cases of tubercular knee-joint an equal number, seven, were set down at first as sprains. In like manner four out of ten cases of tubercular hip-joint disease were at first thought to be traumatic cases. In spinal tuberculosis this element was not so prominent. Rheumatism had been the original diagnosis in some of the other cases. Rheumatism is rare in young children, however, and there is very little excuse for mistakes of diagnosis. The diagnosis of sprain is more justifiable, but when in a young person after the lapse of months and the employment of reasonable care there still remain symptoms, or perhaps the condition has grown worse in the meantime, it is time to think that some other condition than sprain is present.

Even when the diagnosis of a tubercular affection is made very early in the case it is practically almost impossible to get patients or have their friends allow them to undergo the proper treatment for a sufficient length of time. The same thing is true of pulmonary tubercular affections. Patients get some better under the influence of change of climate, diet, and drugs and then they want to return to work at their old homes and to former habits. A relapse is almost inevitable and the only thing for the physician to do is to represent to patients and their friends all the gravity of the situation at the very beginning, and have them understand that the only hope of permanent cure is the most sedulous care in following the directions given for a long period of time.

As a comment on Dr. Gibney's two cases of hematoma in the gluteal region Dr. Dowd had a case to report in which a tumor developed in the gluteal region shortly after trauma. On removal one pathologist said it was a sarcoma, another thought not. Though the operation wound remained absolutely uninfected a serous discharge persisted for some weeks after the operation, which in the speaker's experience is characteristic of sarcomata. This tumor seemed to be one of those dubious fibrosarcomata in which the line between inflammatory fibrous tissue and neoplastic connective tissue is not exactly drawn.

Dr. John B. Walker said that there would appear to be a special joint lesion, the true significance of which is so often missed that it seems to deserve a special mention. These are the so-called sprains of the knee in which the semilunar cartilage is displaced. This displacement is liable to recur unless the condition is recognized and treated properly by rest and position on its original occurrence. A point of tenderness with some prominence may often be found anteriorly or slightly to the side of the knee just above the upper end of the tibia. This is the displaced cartilage itself and it may be pressed back into position.

Dr. S. A. Knopf called attention to the greater frequency of tuberculosis among children than is usually imagined, and the consequent necessity for being on the watch for tubercular bone and joint disease in them. Neumann of Berlin lately found in investigating the cases of 135 boys and 130 girls who were hindered from going to school that 14 of the boys and 15 of the girls had scrofula or some other tubercular affection. The speaker asked Dr. Gibney what his experience with the Beers treatment had been. Beers, and after him others, recommended the application of a wide rubber band just above the affected joint tight enough to affect the venous and not the arterial circulation. The production of venous congestion in the tissues leads, it is claimed, to increased leucocytosis and the presence of more CO_2 than usual. These factors inhibit the growth of tubercle bacilli and finally destroy them. The treatment of tubercular bone and joint diseases in children is most successfully carried out at seaside sanatoria. German, and especially French and Italian experience shows this. We have very few such institutions in this country as yet, but we must have them soon.

Dr. A. H. Smith said that a feature of bone and joint disease of great interest to the general practitioner is the occurrence of lesions in these structures after typhoid fever. Typhoid spine is well known. Recently during a typhoid case he noted a symmetrical subperiosteal enlargement on the crest of both tibias. In both, abscess occurred with slight exfoliation of bone. In another very similar case suppuration occurred only on one side; hot applications caused resolution without pus formation on the other side. In a very recent case of symmetrical typhoid swellings on the tibia in a young lady suppuration seemed to be prevented by hot applications. The fact that injury so often precedes the development of sarcoma is becoming more and more clear, and should not any longer lead to a wrong diagnosis of these neoplastic tumors.

Dr. H. E. Gallant said that melanotic sarcomata are especially liable to fluctuate. There are two tumors that deserve careful differentiation from them: hematomata of which the contents have been partly absorbed, and lipomata. Both of these may fluctuate. One of the reasons why tuberculous joint affections are treated so often as sprains, is that they so often originate in sprains or rather in the mistaken notion of treating them that is so prevalent. It is the custom to immobilize sprained joints. This leaves the effused fibrinous material which is exuded at the time of the injury, the chance at least to partially organize and so make recovery longer and less complete. In this imperfectly formed tissue of low vitality, micro-organisms find a favorable nidus for growth and this proves a frequent origin of tuberculous processes. After an interval of immobilization of the joint we proceed to break up the adhesions that our method of treatment has allowed to form. Why not rather prevent their formation by passive motion and massage shortly after the accident? On the second day after a sprain or even earlier these measures may be employed and will give great relief from pain and restore

function. An hour after the accident the pain may be so much lessened that a patient can walk comfortably.

DR. GIBNEY in concluding the discussion said that prompt treatment of rickets so as to forestall deformity would be much more satisfactory to the surgeon than to have to correct the deformity it entails. As to the importance of sprains as occasions for the development of tubercular joint affections the case would seem to be rather the reverse; the awkwardness induced by the tubercular process very early in the affection causes a tendency to these injuries. This is one reason why they seem to occur so often and one excuse for the mistake in diagnosis at first. The subluxation of the semilunar cartilages of the knee is an important condition that should be recognized and treated carefully, for it seems to bear a causal relation to the subsequent occurrence of tubercular arthritis of the knee-joint. As to the Beers treatment of arthritis by venous congestion he had never had very much confidence in it. He would prefer to produce anemia rather than congestion. Sanatoria by the seaside are, of course, ideal. We have found, however, that if the children can only get away from the city into the country anywhere, into the mountains or into a farming country, it greatly aids their convalescence.

THE NEW YORK ACADEMY OF MEDICINE.—SECTION ON SURGERY.

Regular Monthly Meeting, Held October 9, 1899.

THE Chairman of the Section, DR. CHARLES N. DOWD, in the Chair.

The meeting was occupied with the presentation of patients showing the results of operations performed, mainly during the summer months.

DR. B. FARQUHAR CURTIS presented

TWO CASES OF RESECTION OF THE STOMACH.

The main interest of the cases was that, in both, the tumors seemed to be benign before the operation, but proved on removal to be carcinomatous. They open up the question of the possibility of very early operations for carcinoma ventriculi, *i.e.*, at a time when the neoplasm is just becoming cancerous. The first case was that of a man, aged twenty-eight years, whose mother had suffered a great deal from stomach trouble. He had had all the diseases of childhood and also smallpox. He had never had syphilis nor rheumatism. He was the purser of a steamboat, and once while on a trip to Africa had an attack of bush fever, otherwise he had always been in good health, until about five years ago when the trouble began that finally brought him to the hospital for treatment. At first he noticed distress after eating and a capricious appetite. At times he did not care at all for food, and at others ate voraciously. His discomfort was relieved by the belching of gas. After a year of this he began to vomit, at first two or three times a week so that a week never passed without at least his vomiting once. Then he began to vomit practically every day, and finally even oftener. Sometimes he noted in the vomited material substances that he had eaten two or three days before. He never vomited blood nor coffee-ground material. When he came to the hospital for eighteen months he had been using the stomach tube regularly and washing out his stomach. This afforded him relief at first but later had seemed to do very little good. He lost more than fifty pounds in weight and on entrance to the hospital tipped the scale at 108 pounds.

Examination showed that the stomach walls were thickened, and that there was a tumorous mass in the right hypochondrium. The tumor was neither tender nor painful. On its surface two nodules could be felt. The stomach was considerably dilated, and held about fifty ounces of water. The free hydrochloric acid was lessened in amount, and also the total acidity. Starch digestion was very little impaired. There was slight fermentation in stomach contents that had been retained for some time. With this condition operation was advised and accepted. It was thought that a benign stricture of the pylorus would be found.

A vertical median incision was made from the tip of the ensiform downward for about three inches, and the tumor was found to consist, as had been supposed, of a thickened pylorus. There were no adhesions, but two enlarged glands were found along the lesser curvature of the stomach. An incision was made about an inch from the tumor, the stomach walls being carefully held in apposition by an assistant. Only a small incision was made at first, and the edges of the stomach carefully sewed together as far as the incision went. Then the cutting was done once more, followed by suturing as before. In this way there was very little, if any, danger of extravasation of stomach contents. The stomach was closed up completely along its cut edge by this method, and a double tier of Lembert sutures used to secure perfect closure. The cut end of the duodenum below the tumor was then fitted with a Murphy button, the other portion of which was inserted into the stomach wall posteriorly. This is Kocher's method of performing gastro-enterostomy except for the employment of the Murphy button.

The recovery from the operation, which lasted about an hour and a half, was very satisfactory. The pulse was never above 126; the temperature never above 101.5° F. He required but very little stimulation. Rectal feeding was continued for three days, only the presence of an irritable hemorrhoid making this method of giving nourishment very unsatisfactory. Then feeding by the mouth was begun, and was kept up without inconvenience.

Thirteen days after the operation the patient had gained twelve pounds, while thirty days after he had gained twenty-eight pounds. He has continued in good health, though he still has some dyspeptic symptoms. He cannot eat meat, and he occasionally suffers from vomiting. There has not been time as yet for contraction at the site of insertion of the Murphy button, so that it seems not improbable that the opening out of the stomach is somewhat smaller than it should be. Adhesions as the result of the operation may also be a cause for a disturbance of stomach function.

The next case was somewhat similar. The patient was a German woman, twenty-eight years of age, with a nega-

tive family history. She had not had any of the diseases of childhood. She was operated upon about four years ago for some gynecological lesion. Afterward she had a child and some time later began to experience some discomfort in the right hypochondriac region. There was a pulling feeling causing so much gastric discomfort that she sometimes tickled her throat to make herself vomit. When she vomited the matter brought up was sometimes streaked with blood. She grew worse and lost her appetite completely. A tumor developed in the epigastric region and she lost in weight. When she entered the hospital there was a tumor half the size of the fist just above the umbilicus. It was hard to the feel, tender and painful. It was a smooth rather flat tumor without nodules. It did not move with respiration and was adherent to the abdominal walls.

There was a question as to whether it was not originally a tumor of the abdominal walls that had become adherent to the underlying organs. There were certain suspicious cicatricial marks around the nose that recalled syphilis and suggested the possibility of a gumma of the rectus muscle. The pain and tenderness suggested ulcer and the thought was confirmed by the presence of adhesions. On the other hand, nothing in the history would confirm the diagnosis of ulcer.

At the operation the rectus muscle was found infiltrated and the peritoneum beneath it was thickened. Beneath this the stomach walls were very much thickened, at least to an inch in cross section, while a large tumor existed near the pylorus. There was a hard gland on the lesser curvature not far from the tumor. An ulcer of the stomach wall was found in the region occupied by the tumor. The stomach was dilated and about two-thirds of the dilated organ was removed, leaving a stomach about half the normal size. This was closed and a gastro-enterostomy by Kocher's method with the use of the Murphy button was performed just as in the preceding case.

The operation occupied more than two hours and the patient was considerably shocked. Her temperature rose to 105.2° F. These high temperatures during the first few hours after the operation, careful observation has shown recently to be indicative of shock. The patient was treated by stimulants and intravenous injections of saline solution. This brought the temperature down. On the next day it rose to 103° F. and did not rise again to any significant degree. In this case rectal feeding was kept up for ten days, very differently from the procedure in the first case in which mouth-feeding was resumed on the third day after the operation. She was not hungry for three weeks and for nearly two weeks could scarcely be induced to take food. Some pus formed within the abdomen but as the wound had been closed hurriedly with simple through and through sutures it was easy to secure its evacuation.

The patient had not been weighed before the operation. On the thirty-second day after the operation she weighed 87 pounds and on the fifty-sixth day 105 pounds. She is naturally of very feeble constitution. She now has much less discomfort and more desire for food than at any time for many months.

Examination of the specimen disclosed the fact that the tumor was a carcinoma and this was confirmed by the fact that the glands removed were also carcinomatous. The specimen in the first case was also pronounced carcinoma, though unfortunately the glands removed were not examined. It seemed clear that the case was one of simple hypertrophic stenosis of the pylorus and the glands when cut into seemed enlarged from simple inflammatory irritation. The degeneration into carcinoma could only have occurred quite recently for it is too much to assume that for the five years the symptoms were in existence there had been a cancer of the stomach present.

Dr. Coley said in discussion that his experience demonstrates the usefulness of the Murphy button in these cases. Recently he had had occasion to perform a lateral intestinal anastomosis. He had closed both ends of the gut and had employed an oblong Murphy button.

Dr. Charles N. Dowd said that the ultimate results of the operations for exsection of portions of the stomach were sufficiently encouraging to make the operation more frequent. The actual specimens from a case were shown at a German medical congress recently, in which though considerably more than half the stomach had been removed by operation, the organ removed at the autopsy was practically of normal size. The stomach seems to have very great powers of regeneration and of accommodation to the new circumstances of dilatation.

Dr. Curtis in conclusion said that he considers Kocher's method of gastro-enterostomy (as he had employed it) better than lateral anastomosis. With regard to the two cases presented he thought they justify the conclusion that there is a field for surgical operations on the stomach before cancer declares itself unmistakably. There is undoubtedly, as French surgeons have shown, an opportunity for surgical intervention in cases of persistent digestive disturbances. A gastro-enterostomy has been suggested, and has in a number of reported cases given relief from symptoms.

Dr. Walker said that Dr. Weir has adopted the French suggestion of gastro-enterostomy for these severe chronic dyspeptic cases recently and has been very well satisfied with the results obtained.

Dr. John F. Erdmann presented a case of

Ileus Cured by Operation by Simple Untwisting of the Intestine.

The patient, a man of forty-eight, came to the hospital with a pulse of 145, and a temperature of 102.5° F. The abdomen was tense, but contained no localized tumor. An incision was made through the left rectus muscle below the umbilicus, and was afterward extended across above the umbilicus into the right rectus muscle. The sigmoid presented in the wound. It was four inches in diameter and the dilatation extended up as far as the xiphoid and over into the right hypochondrium. A twist of fully 180° was found in one of the loops and this was untwisted, and as the mesentery was very long was secured by sutures so that it could not retwist. Recovery was most satisfactory. There was no temperature

above 100° F. at any time. In a few days the patient was able to eat heartily. He was able to be about after two weeks, and after six weeks he resumed his occupation of shoemaker. This requires a good deal of bending forward with effort yet the scar shows not the slightest sign of yielding. The patient does not wear a bandage and is perfectly comfortable in every way.

In discussion DR. FARQUHAR CURTIS said that he preferred to have patients after laparotomy wear a belt. The case was very different from a hernia. In hernia the intestine forces its way into a small opening and pressure from without does not prevent it from doing this. In the case of a ventral scar, however, the object is to prevent the scar tissue from stretching, and so allowing the intestines to push out. An abdominal belt could prevent this by absolutely relieving the abdominal wall of all pressure.

DR. COLEY agreed with Dr. Curtis as to the desirability and usefulness of a belt after abdominal operations. It certainly does relieve many symptoms of which patients complain.

DR. BOLTON presented a case of

SUTURE OF FRACTURED PATELLA WITH PERFECT RESULT.

The knee-joint was opened and evacuated of blood and serum two days after the accident, and finally washed out with normal salt solution. The ends of the aponeurosis of the rectus muscle were then sutured together, and the cartilage below the patella. The man can now, three years after the operation, go up and down stairs as well as ever.

DR. CURTIS said that it was recently demonstrated to him that the prognosis after suture of the patella in these cases cannot be sure. He sutured a patella, and after six months it was refractured by a sudden effort of the patient to keep himself erect in a cable-car. He sutured it once more, this time with wire. The wire tore through, for within a year it was fractured again, and again sutured. Each time there was bony crepitus and union seemed to have been good.

DR. CHARLES N. DOWD presented cases of

TUBERCULAR ENLARGEMENT OF INGUINAL GLANDS.

In both cases the patients, boys of eight and ten years of age, had tuberculous sores on the legs or feet. In one the popliteal glands broke down. In the other a sore on the foot seemed tuberculous in character. In both cases the glands were removed. The chain of glands had to be followed, because of recurrences, in along the iliac vessels, and the wound packed.

DR. COLEY presented photographs of two herniæ of the umbilical cord. In one, the size of a small orange, the edges of the abdominal opening were freshened and brought together, and a good result secured. In the other practically all of the abdominal organs were in the hernial sac, very little abdominal wall tissue existed, and nothing could be done. This patient, though the mother was living in the tenement-house district, was alive three weeks after when inquired about, though usually the little patients die before this. Cases of hernia of the umbilical cord are very rare, yet both these patients came to the Hospital for Ruptured and Crippled within a single week.

THERAPEUTIC HINTS.

Swabbing with Carbolic Acid in Pertussis.—GUIDA of Naples employs this means of treatment with very favorable results as to the evolution of the disease, and recommends certain modifications of the usual procedure. He has the throat swabbed at the time of the attacks, instead of in the intervals, thereby avoiding the induction of another fit of coughing. It is also easier to accomplish in the case of very young children than when they are quiet. He uses a stronger solution than that generally accepted as suitable. In case of children under one year the following formula is given:

℞	Ac. carbolici cryst. . . .	gr. xxiv
	Glycerini pur.	ʒ iiss
	Syr. tolutani	*m.* lxxx.

M. Sig. Local use.

In the case of children over three years of age, when it is possible, as a rule, to swab the throat more extensively and longer at a time, the solution is weaker and contains cocain:

℞	Ac. carbolici cryst. . . .	gr. xvi
	Glycerini	℥ ss
	Sol. cocainæ hydrochlor. two per cent.	*m.* lxxx.

M. Sig. Local use.

Guida states that the treatment has always been well tolerated by his patients.

Care of Mouth, Throat, and Nose in Typhoid Fever.—The nasal cavities and mouth should be washed out regularly and carefully with a weak solution of boric acid. If the patient is able to gargle the following may be used to advantage:

℞	Salol	gr. lxxx
	Tinct. benzoinæ . . .	gtt. xxx
	Spts. menthæ piper . . .	℥ viii.

M. Sig. One teaspoonful in a glass of water as a gargle.

Cleanse the tongue and gums frequently by means of a bit of absorbent cotton held in forceps and wet with boroglycerin (ten per cent.). Introduce several drops of menthol-vaselin (five per cent.) or boric-vaselin (ten per cent.) into each nostril.—*Lyon.*

For Exophthalmic Goiter.—VETLESEN of Christiania, influenced by the belief that mineral acids act as tonics to vasomotor nerves, has tried their effect in the above-named disease, and reports excellent results in a number of cases. He prescribes ten drops of dilute sulphuric acid three times a day.

For Syphilitic Coryza in Infants.—

℞	Hydrargyri chlor. mit. . .	parts i
	Vaselini } aa.	parts v.
	Lanolini }	

M. Ft. unguentum. Sig. For swabbing the nasal passages.

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ORIGINAL ARTICLES.

MOUNTAIN FEVER.[1]

BY E. STUVER, M.D.,
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MOUNTAIN FEVER is a subject that has caused a great deal of contention and led to many heated discussions in the medical profession. On the one hand it is claimed that in pathology and symptomatology it is merely typhoid fever modified by the climatic and local conditions of the region in which it is found. On the other hand it is just as strenuously asserted that it is a disease entity entirely distinct from typhoid fever. These wordy, and at times, bitter and acrimonious discussions are, in my opinion, largely due to the lack of a clear definition of mountain fever and a consequent misconception of what is meant when the term is used by persons holding different views as to its pathology.

The disease which is ushered in by a severe chill, intense headache, and general muscular soreness, with foul, coated tongue, constipation and highly colored urine, and is denominated "mountain fever" by one physician does not satisfy the mental concept of another, who regards the disease as modified typhoid. Heated discussions follow because the disputants are talking about entirely different disease entities. The one has before him the mental picture of a bilious fever, attended by the clogging up of the system, and the sudden formation of toxins which lead to intense systemic disturbances, but which fortunately under proper eliminative treatment are ephemeral in duration. Of many hundreds of cases of this bilious fever treated in Wyoming during the last nineteen years I have rarely known of one to last longer than three or four days.

The other disputant, however, perceives an entirely different thing. He has in mind an insidious, slow on-coming and long-continued fever with its physical prostration and mental perturbation, and has no patience with the man who talks of breaking up the disease in a few days. This being the state of affairs, the first essential is a clear definition of what we mean when we use the term "mountain fever." I believe that in the interests of truth and scientific medicine the term should be dropped and consigned to the oblivion which has overtaken the popular term "typhomalarial fever" of two decades ago; but since it is with us let us see what can be done with it. As used in this paper the term "mountain fever" will mean typhoid fever as modified by the local conditions and climatic influences of the Rocky Mountain region, and I shall briefly outline my reasons for so defining it.

Post-mortem examinations made by a number of competent observers have shown that the lesions are identical with those found in typhoid fever in our Eastern States. This was very clearly demonstrated nearly twenty years ago by a surgeon in the United States Army who, in seven or eight autopsies in cases of this kind, found the characteristic enlargement and ulceration of Peyer's patches and other lesions typical of typhoid fever in every one of them. These earlier observations have been corroborated by more recent ones. Dr. Charles E. Woodruff, U. S. A. (*Jour. Amer. Med. Ass'n.*, April 2, 1898), writes as follows: "Whenever a case went to the post-mortem table the lesions of typhoid fever were invariably found, so that a few physicians dropped the term (mountain fever) at once." I desire to call your earnest attention to Dr. Woodruff's paper, to which reference has been made, as it is based on thirty-five cases treated at the United States Hospital at Fort Custer, Montana. The cases are fully recorded and carefully analyzed, and are particularly valuable because in nearly all (30) repeated blood-tests according to Widal's method were made. It is a curious, suggestive and instructive fact that while in many of the cases the earlier examinations gave negative results, the later ones, and some well on during convalescence, gave positive reactions; all the patients examined, with one exception, gave a positive Widal reaction at some time during the course of the disease. (In three recent cases of my own the positive Widal reaction was obtained.) We thus see that post-mortem examinations and bacteriologic investigations unite in declaring "mountain fever" to be an atypical form of typhoid fever.

Let us now briefly glance at the symptoms which characterize the disease. In nearly all cases it is ushered in by malaise, headache, a quite decided chill, or chilly sensations, and fugitive pains in the muscles, especially in the back. The headache ordinarily subsides in a few days, especially when

[1] Read at the third annual meeting of the Wyoming State Medical Society, held at Laramie, Wyo., October 10 and 11, 1899.

the patient is put to bed early and kept perfectly quiet. The tongue is always more or less coated. In mild cases the coating may be merely a thin white fur, but in severe ones it is yellowish-brown, and may cover the whole dorsum of the organ. The breath is foul, of a sweetish odor, and there is often a bad taste in the mouth; this is sometimes attended by anorexia and loss of appetite. One peculiar characteristic of the disease is the prevalence of constipation, which is present in the great majority of cases. Out of the twenty-five or thirty cases I have seen well-marked diarrhea was present in only a couple of instances. The lenticular rose-colored spots are quite frequently present, and right iliac gurgling is found in the early stage in most cases.

The temperature presents a regular typhoid curve in many instances, but in others it pursues an atypical course. These irregularities are found particularly during the convalescent stage. After having been normal in the evening for a number of days the temperature without any ascertainable cause, will often go up to 101° or 103° F., and after remaining there for a few days will return again to the normal. The temperature in my own cases ranged from 101° to 105° F.

The liver and spleen are enlarged in a considerable proportion of cases, and abdominal distention and tympanites are present with varying frequency. Sometimes a series of cases will be found in which these symptoms are present in the majority, while in another series their presence is the exception. Mental hebetude, maniacal, or low muttering delirium and extreme physical prostration are not frequently found, but this I believe is due rather to more intelligent and rational methods of treatment than to any change in the severity of the disease. The pulse varies generally between 90 and 120 per minute, and rarely in my experience exceeds the latter rate. It sometimes becomes dicrotic or intermittent. At the present time I have a seriously ill patient under treatment in whom the pulse intermitted every fifth or sixth beat, but under the action of strychnin and other heart tonics the intermittency appeared at longer intervals, once in twenty beats, and finally disappeared. The urine is high-colored, and often is passed at infrequent intervals, in some cases only once in twenty-four hours. Epistaxis is only rarely present during the prodromal period, but is a more frequent symptom after the establishment of the disease.

In speaking of complications in his thirty-five cases Woodruff says: "Bronchitis was rare, only three or four cases. There was no pneumonia; intestinal hemorrhage was several times suspected from sudden falls of temperature, but in no case did blood appear in the stools." In my own cases I have never met one of frank pneumonia, but in one long-continued case, in a child eight years of age, there was hypostatic pneumonia. In this same case, owing to the intense systemic infection, pyemia supervened and both parotid glands suppurated, and had to be lanced, discharging a large amount of pus. This case is corroborative proof of the typhoid nature of the disease, because a parotid suppuration is a rare complication of typhoid fever. Austin Flint, Sr., reported that he saw only six cases of this complication in typhoid fever in all his enormous clinical experience.

Through the courtesy of Dr. Solier I saw one case of severe intestinal hemorrhage, but have never had that complication in my own practice. I did see one case of intestinal paresis or paralysis, due to improper diet, which from the fatal termination is of sufficient interest to report. Three or four years ago I treated Mrs. R., a large, fleshy woman, mother of several children, for a severe attack of typhoid fever. The temperature ran high, 104° to 105° F. for nearly two weeks. Pulse was weak, and heart-failure had to be constantly guarded against. The case pursued a favorable course, however, and the fever gradually subsided until the temperature reached normal. With careful instructions as to diet and exercise I dismissed the patient, but requested the husband to notify me at once if any unfavorable symptoms made their appearance. Three or four days later I was hastily summoned to see the woman and found her gasping for breath, her abdomen distended, as tight as a drum, and her pulse very rapid and almost imperceptible. On asking the cause of this state of affairs I was informed that she had been doing nicely until that day, when a kind (?) neighbor had brought in a large plateful of apple cobbler, and the patient had eaten the whole of it at one sitting. I introduced a large rectal tube, piped off some of the gas, gave her heart tonics and stimulants, as well as carminatives and digestants, and in a few hours she was in a fairly comfortable condition. At this juncture, however, the husband was persuaded by over-solicitous and philanthropic neighbors to change doctors. The patient was placed under the charge of another physician, and after suffering intensely for about two weeks passed into the hands of the undertaker.

The fatal termination of this case impressed upon me strongly the importance of careful regulation of the diet in all these fever cases, even for a considerable time after the subsidence of the fever and the establishment of convalescence. This precaution is particularly important in view of the fact that recurrences of the fever or relapses are very frequent,

even a week or more after the temperature has become normal. Of course, intestinal perforation is a contingency that must always be present in the mind of the physician, but fortunately it rarely occurs.

Since the disease is caused by the Koch-Eberth bacillus, and is communicated principally by means of drinking-water, milk, and by flies (*Jour. Amer. Med. Assn.*, September 2, 1899) which, by coming in contact with the dejecta convey infective material from the sick to the well, every possible precaution should be taken to sterilize the dejecta, both feces and urine (it is now known that the urine of typhoid patients may contain the germs for many months, *Jour. Amer. Med. Ass'n.*, September 9, 1899) and dispose of it so as to protect the community against the ravages of the disease.

While to the physician a careful study of the symptoms and pathological lesions in order to arrive at a correct diagnosis is a matter of great importance, rigid measures of prophylaxis to prevent the spread of the disease is of the greatest moment to the community. To the person down with the fever the question which transcends all others is, What treatment will give the greatest chance for recovery and afford most relief to my sufferings? As practical physicians whose principal function it is to mitigate suffering and save life, let us see what treatment is the best to pursue in combating this disease. We are here confronted by a malady whose death-dealing toxins penetrate to the very citadel of life, and the most active resistance on the part of the protecting forces of the organism is necessary in order to overcome the disease.

Fierce wars have been waged by the advocates of different methods of treatment, from the copious venesection of our forefathers to latter-day nihilism, and the smoke of battle still envelops the contending partisans. This state of affairs makes it necessary that the physician should possess a clear conception of the disease, that he have good common sense, that he have faith in the efficacy of properly applied medicinal agents, and that his mental vision be not befogged by any restricted methods or fad. There are two guiding principles which I believe should never be lost sight of in the treatment of any disease, and which apply with peculiar force to the disease under discussion: First, inhibit or destroy the pathogenic micro-organisms, and neutralize or eliminate their poisonous toxins; second, strengthen the phagocytes and cells of the body and conserve the bodily forces in their battle against the morbific agents. With these broad general principles clearly in mind let us see what can be done when confronted by a case in actual practice. First, put the patient to bed in a cool, well-ventilated room, and surround him by the best possible sanitary and hygienic conditions. In carrying out our first principle in our battle against the micro-organisms and their toxins I believe an eliminative and antiseptic treatment occupies a very prominent place. During the first few days I give, hourly, tablets containing ½ a grain each of calomel and sodium bicarbonate until free catharsis is produced. The calomel acts on the liver, producing a free flow of bile, and has a cathartic action, and, as was shown by Dürhssen several years ago, also has a decided diuretic effect. By these different actions a large amount of toxic material is carried out of the system. Furthermore, calomel is a potent antiseptic and exerts an inhibitive effect on the bacilli causing the disease. Many writers assert that the good effects claimed for the antiseptic treatment is a figment of the imagination, and that sufficient antiseptic material to kill the bacilli would be fatal to the patient. I suppose some of this audience have at times observed the condition of sluggish streams near our Western towns; they teem with dead dogs, cats, and filth of every description. They are an insult to our ideals of the eternal fitness of things, and no one would invoke their aid in allaying an irritable stomach, or in restoring a failing appetite; but let a sudden freshet come on, and behold the change! The decomposing animal matter and foul stenches almost instantly disappear and from being nauseous and disgusting the place becomes pleasant and salubrious.

It has required no powerful antiseptic nor chemical action to effect this change, but plain water and a physical washing-out process has accomplished it. The alimentary canal during the early stages of typhoid fever can be appropriately compared to a foul stream and the calomel has much the same effect on the system as the freshet has on the sluggish stream; it washes out the feces, decomposing material, bacilli, etc., and cleans the alimentary canal from one end to the other. This removes the bacilli and accumulated toxins and places the bowels if not in a surgically clean, at least in a vastly improved condition, and removes an incubus from the whole system. The toxin-poisoned cells arouse from their lethargic state, the headache disappears, and the countenance assumes a brighter and more cheerful aspect. But the medical nihilist confronts us with "My dear sir, don't you know that the bacilli have already penetrated deep into the bowels, and are beyond your antiseptics and flushing; and don't you know that typhoid fever pursues an unalterable course no more to be changed than the laws of the Medes and Persians, and any attempt to

abort or cut short the disease is a sacrilegious flying into the face of Nature?" and much more of a similar kind of logic. Yes, my dear sir, we know all about that; but with all due respect for the great pathologists of the country, with whom the post-mortem is often the most important part of a case, and the medical nihilists who can see no virtue in therapeutic agents, we must differ. With hundreds of honest, painstaking and conscientious physicians all over our country we believe the course of the disease can be shortened and the severity of its symptoms mitigated. If it is good treatment and hastens the healing process to drain and cleanse a wound on the surface of the body as thoroughly as possible, why is it not good treatment to resort to similar measures in treating the bowel?

After the first few days of the cathartic treatment above described, the effect should be continued by giving enough antiseptic and eliminative medicines to produce several free passages each day. When the stomach will tolerate it I have found that the Woodbridge tablet No. 1, one or two every hour, acts very well. Salol and arsenite of copper can be used to good advantage in some cases, and in several instances recently I have obtained very good results from a tablet composed of equal parts of sulphocarbolate of zinc, lime and soda, 5 grains in each tablet, given four or five times a day when the bowels are acting freely. The indications must be carefully studied and the particular antiseptics selected to meet these indications in each case.

The cold bath is one of the approved methods of treatment, and has many earnest advocates, so earnest, I have often thought, that they fail to see the good in other methods of treatment. There is no question as to the good effects of the cold bath, and I have used it with excellent results in a number of cases. It lowers the temperature from one to three or four degrees, tones up the nervous system, strengthens the heart, and largely increases the amount of urine and toxic materials eliminated by the kidneys, but while these beneficent results follow the use of the cold bath, it is claimed on the other hand that the application of cold to the surface of the body considerably increases the tendency to intestinal hemorrhage, as well as the fatality following that accident.

Dr. Roland G. Curtin of Philadelphia (*Jour. Amer. Med. Assn.*, September 25, 1897), after a careful analysis of sixty hemorrhagic cases, as furnished by the hospital records, writes as follows: "When you take into consideration that the application of cold drives the blood from the surface of the body it must necessarily be followed by an increased amount in the interior, causing a congested condition of the internal organs, and if there happens to be a blood vessel weakened or opened by the operative process it may give way or a clot be dislodged, and a hemorrhage follow. The necessary disturbance in giving a cold bath or the reaction following it may have a tendency to produce the same result. These statistics would seem to indicate that it would be well to avoid cold applications to the skin when there is a tendency to hemorrhage, or when it has already occurred. I would also suggest that during the third week, when the sloughing process is most active, the cold bath or pack, if used at all, be used with great care, avoiding sudden and marked impressions on the external circulation; we may in this way avoid making the case a hemorrhagic one."

Then, too, the almost insuperable difficulty of giving these cold baths in private practice is a serious objection to the treatment. Many ingenious devices have been suggested for overcoming the difficulty, but when tried in the crucible of experience are found to be unsatisfactory. Fortunately, however, I believe we have within our reach a method which is always available and easy of application, and while possessing the advantages of the cold bath is free from its inconveniences and dangers. I refer to the intrarectal injection of cold normal salt solution. I have seen the use of cold water per rectum advocated, but so far as I know the use of the normal salt solution for this purpose is a thought original with myself. By these injections, using either a bed pan or a Kelly-pad to protect the bed, one avoids disturbing the patient or causing movement on his part. By means of a fountain-syringe hung up at the head of the bed these injections can be given without fuss, muss, or trouble of any kind. The first one will probably come away, bringing with it some feces, thereby cleansing the bowel; subsequent ones may come away after a time, but if they do they abstract a large amount of heat; often, however, they are retained, and the water passes out through the skin and kidneys, principally the latter, for Dr. W. H. Thompson has ascertained that normal salt solution causes a marked increase in the amount of urine, and of the urea contained in it (*Journal of the American Medical Association*, August 26, 1899). These cold normal salt solutions (and I would advise very cold, even ice-water, when the fever is high) reduce the temperature, calm nervous irritability, and tone up the nervous system, strengthen the heart, eliminate toxins from the system, and prevent, instead of cause, internal congestion. I have used them in a number of cases with very beneficial results, and in a recent very severe case, with tympanitic disten-

tion and tenderness of the abdomen, headache, temperature 104° F., dicrotic pulse, sordes on the teeth—in short, a case of profound toxemia, the relief was almost instantaneous. The patient's temperature declined, the pulse became more regular and stronger, and the countenance assumed a look of peace and contentment instead of its former pained expression.

As a heart-tonic I rely principally on strychnin, but occasionally find Da Costa's heart tonic tablets a valuable adjunct. Each contains nitroglycerin, $\frac{1}{100}$ of a grain; tincture of digitalis, 2 minims; tincture of strophanthus, 2 minims, and tincture of belladonna, $\frac{1}{4}$ of a minim.

I restrict the diet to milk, buttermilk, or other liquid nourishment. By this treatment the disease not only runs a shorter course, but the symptoms are greatly mitigated in severity, delirium is scarcely ever present, and physical prostration is much less marked than under the old methods of treatment, which furnished a continual banquet for the bacilli and permitted constantly increasing amounts of toxin to circulate through the system, poisoning the blood, poisoning the brain, poisoning every cell and tissue of the body, while at the same time the patient was drenched with enormous doses of brandy or whisky, an ablation, doubtless, to Charon, who ferried them over the Styx.

YELLOW FEVER AS A SCOURGE IN THE UNITED STATES.

BY G. HEUSTIS FONDÉ, M.D.,
OF MOBILE, ALA.[1]

A REVIEW of the history of the yellow-fever epidemic in the United States is encouraging. To recall the epidemics which swept through the cities of New Orleans, Mobile, Memphis and Norfolk, which were virulent and fatal, it is necessary to go back some twenty years or more. The mortality of the disease at that time was appalling and sufficient to leave the impress which the name "yellow fever" brings only to those familiar with its past history. But at the present day we find that the disease is becoming milder and milder, so mild, in fact, that some of the older physicians are loath to acknowledge that it is the same disease with which they were familiar. Yet, that it is the same disease in every respect, except in degree, is beyond question, for while the large majority of cases are almost trivial attacks so far as life is concerned, in a greater number of cases a few will be found which are of a most malignant type. That the lessened mortality is due in great part to a more thorough understanding of the disease and rationale in treatment cannot be doubted by those familiar with it, but that yellow fever has become attenuated and generally milder is also beyond dispute. The explanation of this lessened virulence may be found, perhaps, in the enlightenment of the physicians and public as to the conditions which favor the propagation of the germs in increased virulence and concentration. This particularly applies to room and house infection. That the disease is disseminated and spreads almost entirely through the medium of house infection is evidenced by watching the first cases of an epidemic and tracing the visits of the patients to sick friends at night or for several hours in the day in ill-ventilated rooms or rooms suitable to retain the infection until it reaches sufficient concentration to become a danger to the non-immune. That it is seldom if ever contracted by direct contagion is the opinion of those most familiar with the disease.

In illustration of this theory there are institutional statistics showing that yellow-fever patients have been treated in wards filled with non-immune patients and attended by nurses and physicians not immune without the spread of the disease. In one instance of this kind the beds intervening between the yellow-fever patients were occupied by surgical non-immune and confinement patients, and yet the disease was not contracted by any one in the ward or building. This is accounted for by the theory that the disease is not *directly* contagious; that the yellow-fever patient first infects his personal clothing and bed or room, the infection then undergoing some change or increase and becoming sufficiently virulent or concentrated to endanger those susceptible to the disease. It has been proved by keeping the bed-clothing, linen and wards fresh and clean, and by disinfection of the surroundings that the disease can be checked not only in a city but within the confines of the same walls. Supposing that thorough disinfection was not attained in a ward, but that the degree of concentration of the infection and the media for growth of the germ or development of the infection were unfavorable, then one contracting the disease from such a source would probably suffer from a milder type than if the infection had been from a ranker crop of germs, though of course this would vary also according to individual resistance or susceptibility. Apply this to an epidemic and one can account to some extent for the more attenuated form of the disease which has characterized the outbreaks of the past fifteen or twenty years.

Again, the lessened mortality of to-day may with a strong probability of correctness be accounted for by the failure to diagnose and report the very mild

[1] In charge Yellow-Fever Camp for city of Mobile in 1897; Acting-Assistant Surgeon, U. S. A., on Yellow-Fever service, 1898; Acting-Assistant, Marine Hospital Service, on Yellow-Fever service in Agric. & Mech. College of Mississippi, 1898; on Yellow-Fever service, National Soldiers' Home, Va., 1899.

cases in the years past. At any rate, it can be said positively to-day that the recent epidemics would show even a much smaller mortality-rate if every mild case of yellow fever were reported. It would seem incredible, then, that the name "yellow fever," to-day could create a greater panic than numerous epidemic diseases of the North, as well as the South, which are much more fatal, and more tedious and treacherous than yellow fever.

It might be asked if it would not be in line with this argument to favor abandonment of quarantine and obstruction to traffic and allow the disease to immunize the South for a generation and a half to come. Perhaps such a view will not prove a bad one, but we must not jump to the other extreme now. We can resist the progress of the disease if it is not too mild to bear all the ear-marks and consequently does not slip through the lines without warning because of its lightness. While reason and recent experience should make us feel safe from future death-dealing epidemics of yellow fever, conservative judgment would not permit letting the bars down and trusting the disease too early in the yellow-fever season, because it is known of all epidemic diseases as well as of yellow fever that as the epidemic grows older the disease grows more virulent in form. Late in the yellow-fever season the appearance of a mild form of the disease should cause no alarm, even if quarantine restrictions—and by this the retarding if not absolute checking of the spread of the disease—be abandoned, though there would be greater security and little inconvenience to the public to continue house quarantine and local measures.

That thorough disinfection, isolation and quarantine measures not only can check an epidemic but can and have stamped it out in this country is demonstrated by its accomplishment recently at the National Soldiers' Home, in Virginia (with some thirty-five hundred inmates), and in the town of Phoebus. Other instances might be cited. On the other hand it seems only reasonable to conclude that where conditions of climate, soil, and unsanitary surroundings prevail, as in Cuba, and where the infection would not only be propagated in houses and people but is widespread in the soil of the locality, it would then only be possible to check the spread of the disease by confining it to one region, and its stamping out or extermination would be practically beyond artificial means unless in a very limited area. From this example, an illustrative proposition, the Gulf and South Atlantic States, which are not the natural habitat of the disease, can and will unquestionably be able to stamp out infection if discovered early and check or control all outbreaks of yellow fever sufficiently to make it no longer the dreaded scourge of the South, though it seems now not sufficiently fatal or severe to be dreaded even if it were impossible to control it.

Thirty years ago the announcement of one case in a city like New Orleans would have been followed by such rapid geometrical progression of foci from the primary one that it was then proper perhaps to consider the whole city as infected, but with the present methods of guarding, isolating and disinfecting such should not be the case. The discovered infected foci are of very little danger to the city of New Orleans, much less to other cities.

In regard to keeping the disease beyond the border of the United States, we have learned valuable lessons from the recent outbreaks which should not fail to be of future benefit in solving the question with even greater ease than that assumed in the foregoing discussion. The Southern ports are supposed to have uniform quarantine regulations. The lack of uniformity and thoroughness of detail in the work are patent to the observer in quarantine matters and no doubt will soon be corrected. However, of great importance to the South, both from a sanitary and a trade point of view, is the outbreak in Virginia this season, the case in the city of Washington last season, and still another the season before in New York City, in the person of Colonel Waring.

The infection has gained entrance three consecutive years through the New York quarantine station, in two instances the disease being well developed at the time of inspection, or supposed inspection, by the New York quarantine officer, and in the last instance in some old quilts and plunder from Santiago which escaped fumigation. The bearing of this from a sanitary point of view is evident: persons and baggage entering New York, Baltimore and other ports from the tropics can reach the South more promptly than by entrance through Southern ports, on account of quarantine detention. This being a fact, the regulations should be, if not the same for the North Atlantic ports, at least proportionate to the liability of infection. The bearing of this from a trade point of view is also evident: these ports are competitors of the Southern ports for the tropical trade and should not be allowed an advantage in quarantine restrictions which renders the South less secure than those which are self-imposed and necessary for the protection of her ports and adjacent country.

CONGENITAL TUMORS OF THE FINGERS.

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My studies of this subject originated from the occurrence in my practice of two congenital neoplasms in new-born infants, the nature of which, owing to

their comparative rarity, was at first somewhat uncertain. Briefly stated, the cases were as follows:

CASE I.—September 23, 1895, Mrs. W. P., of Oak Orchard, Orleans County, N. Y., was delivered of a child which had a tumor nearly half an inch in length and one-third of an inch in diameter attached by a narrow pedicle to the outer surface of one of its little fingers. On the morning of September 24th I removed the growth by severing the pedicle with scissors. Rather free bleeding followed, which was controlled by applications of bismuth subnitrate. The healing was rapid. The growth resembled a supernumerary digit which, according to Reynolds,[1] may be attached by skin only.

After hardening in alcohol, sections stained with borax-carmine revealed normal epidermal tissue on the exterior, while internally there was a central space filled with granular semi-sebaceous material. The central cavity was lined with epidermal tissue in no way to be distinguished from that on the exterior surface of the tumor. Numerous hairs were included in the substance proper of the growth. Nothing was seen which resembled a cross section of a supernumerary digit or a fetal finger. (Clarkson.[2] Fig. 137.) The growth was a dermoid tumor.

CASE II.—September 12, 1897, to Mrs. I. V., of County Line, Niagara County, N. Y., was born a son with a similar growth upon the thumb of the right hand. This was removed September 13th without any difficulty.

An examination of the thumb eighteen months after the operation showed that it was atrophied and considerably smaller than the left one. The distal phalanx was somewhat abducted. The mother remarked that "it looked more like a finger than a thumb." All the articulations of the thumb were abnormally relaxed and movable, giving the appearance of partial luxation, and there was a band of tissue along the outside of the thumb, partly cicatricial, which doubtless had some part in the abduction of the distal phalanx.

Féré[11] has recently described some cases of luxation of the thumb in children affected with unilateral or bilateral paralysis, and points out that besides the luxation there were present other evidences of defective development, such as small size of the thumbs, etc. In my cases I conclude with Féré that these phenomena (dermoid tumor, joint laxity, smallness of the thumb and abduction) are the results of the same development defect.

If a case similar to Case II. should ever present itself I should urge the use of the Röntgen-rays. This would show if, in addition to the tumor, there was defective development of the osseous structures of the finger, and allow proper treatment to be instituted Joachimstal[3] was the first to call attention to the great value of the Röntgen-rays in such congenital anomalies.

In another communication, "Ueber Brachydaktylie und Hyperphalangie," Joachimstal[4] emphasizes the value of the X-rays in the examination of fingers abnormally short or long. After recapitulation of three cases of Leboucq, he describes the case of a twenty-seven-year-old woman with index- and middle-fingers of one hand very much shortened, and a long index-finger on the other hand, and in the twenty-two-year-old sister of the preceding patient a similar defect. A son and a niece of the first woman had the same peculiarities. Subjected to the Röntgen-rays these cases of short fingers proved to be due, not to a diminution in the number of the phalanges, but to a reduction in the normal length of the individual members. (The occurrence of these cases of Joachimstal in one family brings to mind the observations of Dr. D. Young[5] on "Hereditary Digital Abnormality," in which he describes a family which have what they call "straight thumbs," *i. e.*, broad ankylosed terminal phalanges, transmitted from the paternal side.) Hawkins-Ambler[30] investigated a case of unequal growth of the fingers with the Röntgen-rays, and agrees with the view of Crawford that it was caused by incomplete division of the cartilage and deficient nutrient supply in consequence. Gerrish[6] says that the cause of makrodactylia, in which from excessive nutrition the digits are enormously enlarged, is unknown. He gives an illustration of the disease occurring in two fingers of one hand and three of the other, to which the reader is referred.

Dermoids of the limbs and fingers are classed by Sutton as implantation dermoids. Dr. Roswell Park[7] tells us that "they are rare and usually associated with antecedent injury, by which epiblastic structures are driven in and implanted in such a way that as they develop they give rise to these peculiar tumors." Ziegler[8] considers them to be due to aberrant germinal cutaneous cells from the epiblast which have wandered to an abnormal site. H. Ribbert[10] has investigated the experimental production of epithelial and dermoid cysts, and says that they can only be produced experimentally when pieces of epithelium are implanted along with connective tissue to which they are physiologically attached. This connective tissue has an office to perform in affording nourishment to the implanted epithelial cells. Under these precautions Ribbert used indifferently in his researches epithelium from the epidermis, from the mucous membrane of the mouth, and from the conjunctiva. Small pieces were implanted in the lymph glands, the posterior chamber of the eye, under the skin, and in the abdominal cavity. In consequence of secondary changes the relationship of the implanted epithelium to that of the experimentally produced cyst

cannot always with certainty be traced. Ribbert considers that epithelial and dermoid cysts originate in the human being oftener than they are observed, many of them failing to mature and finally disappearing, a frequent occurrence, as might readily be imagined in the experimental production of these tumors.

In a case of supposed congenital tumor of the fingers the following conditions might come up for consideration: Supernumerary fingers; makrodactylia with brachydactylia; congenital hypertrophy associated with lipoma (this sometimes occurs in the foot, Blackader[13]); exostosis (Simonart[14]); dactylitis syphilitica; tuberculous disease of the fingers (Bennett[12]); lipoma (Ranke[15]); sarcoma; new growths of traumatic origin; corpora oryzoidea.

As regards congenital deformities and abnormalities nothing farther need be said, for the reasons that I have already briefly considered them, and the diagnostic features are treated in various text-books.

Tuberculous disease of the fingers, according to Kauders,[16] has a peculiar appearance, the affected fingers being enlarged in a spindle-shaped manner, the bones appearing puffed up (*aufgeblaht*). Sometimes the swelling is elastic, but may be hard, the overlying skin edematous, at times reddened and hot. The disease mostly attacks scrofulous children, and family history is an important element in diagnosis. According to Sturgis,[18] the first sign of syphilitic dactylitis is an enlargement of the shaft of the bone, which may be at times painful, the swelling hard at first being followed by softening and necrosis, shortening, and a useless finger. Congenital enchondromata or exostoses may be distinguished from syphilitic dactylitis by "more localized swellings, limited to a portion of the circumference of the bone" (Van Harlingen[17]). The reader is referred to works on hereditary syphilis and syphilis of the osseous system. Clubbed fingers occurring in congenital heart disease or as a result of empyema or phthisis, and arthritic enlargements of a gouty or rheumatic character, ought not to present any difficulty in diagnosis.

Microscopic examination may be necessary to decide the question, as sebaceous cysts, often have been taken for dermoids, or *vice versa*.

Sarcoma in its various forms attacks the fingers. For instance, Wheeler[32] describes a case of melanotic sarcoma of the right index-finger; Turner,[33] a case of osteosarcoma of three fingers; La Grange,[35] a case of simple sarcoma of the little finger; while A. Cartaz[34] has put on record an affection of the first phalanx which he calls "sarcome periostique." Sarcomatous tumors of the fingers vary in size, some reaching such proportions as to be noteworthy (O'Grady[31]). Any of the fingers may be the seat of the neoplasm.

Digital tumors may be the result of traumatism. Thus, Hamilton[19] narrates a case of traumatic enchondroma of the finger, and Spasokukotski[20] has observed a traumatic epithelial cyst of the fingers. A history of an injury would facilitate the diagnosis and clear up any doubt. The observer having excluded congenital hypertrophies and malformations, deformities due to tuberculosis, syphilis, heart disease and gout, as well as traumatism, and coming to the conclusion that the case is one of congenital tumor would be obliged to discriminate between the following (Monory[21]): Dermoid, epithelial sebaceous tumors or cysts; enchondromata (of the thumb; see Isenschmid[26]); nevi, cavernous and venous tumors. These are the most frequently recorded congenital digital neoplasms.

That dermoid and allied epithelial cysts are not uncommon may be inferred from a perusal of medical reports, for instance, Rizet[22] has written upon the subject of dermoid cysts of the fingers, Troquart[23] upon an epidermal cyst of the pulp of a finger, and Gibier[24] has also described a cyst of the palmar surface of the second phalanx of the right index-finger. Congenital enchondromata are also frequently mentioned in medical literature. Murchison[25] tells of a cartilaginous tumor, enchondroma of the middle finger, which necessitated amputation, and Labbe[27] narrates a case of congenital venous tumor which was erectile, subcutaneous, and which developed on a finger of a young lad; and Curling[28] has communicated a case of degenerated nevus of the finger. Holmes[29] says that it is often difficult to make a diagnosis of congenital tumor from degenerated nevus without exploratory puncture. He tells us that "a nevus will bleed copiously on puncture, the tissues will feel soft, and the point of the needle will be almost but not quite fixed. In a congenital tumor if solid there will be nothing following the puncture except the minutest quantity of blood; the tissues will feel quite hard, and the point of the needle will be fixed."

When the neoplasm is active or malignant, and actually threatening life, its immediate thorough removal is indicated. Amputation may be necessary in some cases. Cases not active may be left to the judgment of the surgeon, but in those cases in which the tumor forms an unsightly deformity, and is attached by a narrow pedicle, immediate removal is best. But in such apparently simple cases it would be a mistake to comfort the anxious parents with the remark, "after it is snipped off it will never cause any trouble," before an examination of the bones and other tissues of the finger has been made, in or-

der to exclude the possibility of some general developmental defect of which the tumor may be by far the smallest feature. The Röntgen-rays should be used if there is any doubt.

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CLINICAL MEMORANDUM.

TUBAL PREGNANCY AND DERMOID CYSTS; REPORT OF A CASE.

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EXTRA-UTERINE pregnancy occurs so often that most members of this society have had opportunity to make clinical observations on the subject. Dermoid cyst of the ovary is also not of infrequent occurrence. Statistics compiled by several observers of large experience show that from three to seven and one-half per cent. of all ovarian tumors are dermoid cysts. They usually occur in but one ovary. Dr. Kelly, in twenty-one cases, had but one in which both ovaries were involved. It is generally believed that all dermoids are congenital in origin, although some hold that an occasional one occurring in the ovary may be the result of an interrupted ovarian pregnancy. The case which I wish to report is one of dermoid cyst in both ovaries, and pregnancy in the right Fallopian tube, with almost complete obliteration of the left tube.

Mrs. A., aged forty-one years, American born, intelligent, menstruated first when twenty years of age. The flow was scant at that time, and did not occur again for three years. She was married at the age of twenty-three, and gave birth to a son three years later, which was fifteen years ago. At the birth of her child she had "child-bed" fever, so-called, and was confined to her bed eight weeks, a part of which time she was unconscious. She had high fever, chills, sweats, distention of the abdomen, and much pain, but does not know whether

FIG. 1.

(1) Teeth. (2) Bone. (3) Skin covered with scattering hair. (4) Tube distended with dark-colored fluid. (5) Remains of a portion of tube. (6) Fimbriated end of tube. (7) Cysts containing clear fluid.

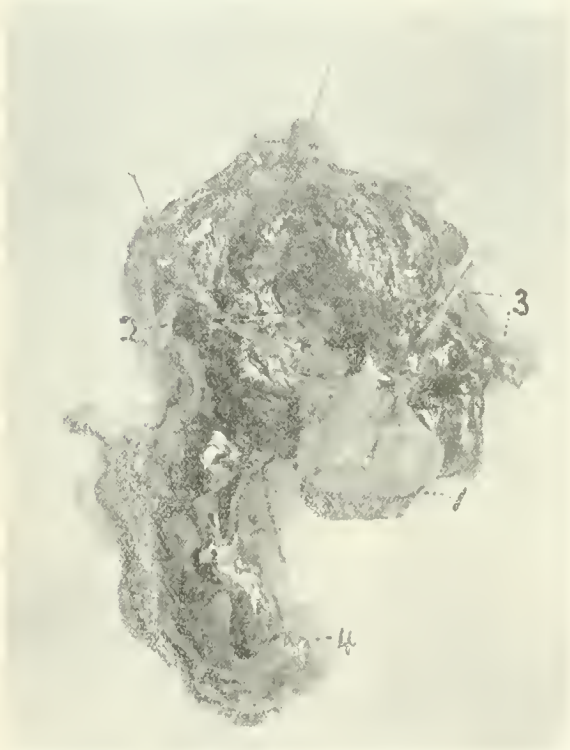
there was an abscess or not—thinks not. Her child was three years old when she next menstruated. The flow was scant and had a bad odor. When most regular she menstruated only three or four times a year, the flow frequently being absent for six or eight months. In the fall of 1898 she menstruated twice in thirty days, the only time this ever occurred. The flow was always scant. From girlhood she had frequently fainted. Seven years ago she had an attack of peritonitis, and was ill five weeks.

I saw her first May 8, 1899, at 1 A. M. She was suffering from severe pain in the right side of the pelvis and abdomen. A tumor, which was quite tender, could be felt on the right side, extending a little above McBurney's point. The pain began four hours before I saw her. It was dull at first, and later became quite severe and

lancinating. From January 30th to April 14th there had been no flow. On the latter date she noticed a scant, stringy discharge, which continued until May 7th, a period of twenty-three days. At the time of my visit shock was intense; her temperature was 95.8° F., her pulse 60, and scarcely perceptible at the wrist. Respiration was sighing, her face and lips were blanched, and she was nauseated, vomiting frequently.

Extra-uterine pregnancy with rupture was diagnosed, and immediate operation advised. She was given a hypodermic injection of ergotin, and one of $\frac{1}{30}$ of a grain of strychnin. Three hours later consent to the operation was obtained. During the interval the strychnin had been repeated three times, and one hypodermic injection of $\frac{1}{100}$ of a grain of atropin had been given. The patient was removed to St. Luke's Hospital, and the operation performed at 5.30 A.M. Her temperature when she was put on the table was 97.5° F., and her pulse 82. Chloroform was administered for a few minutes and ether the remainder of the time. As soon as she was brought into the operating-room injection of normal salt solution under the breasts and into the loose tissues on

FIG. 2.



(1) Fetus in sac. (2) Cavity in tube at point of rupture. (3) Fimbriated end of tube. (4) Uterine end of tube.

the sides was begun, and was continued during the entire operation, a little more than three quarts being used.

A few moments sufficed in which to explore and curette the uterus, which was found to be four inches in length and turned to the left side. It contained considerable shred-like tissue, supposed to be decidual membrane. I removed the rubber gloves, which were used during the curettement, and opened her abdomen, making a median incision about three inches in length. The abdomen was full of dark blood and blood-clots. The incision was enlarged to about six inches, and the abdomen washed out with hot salt solution. The patient was put in the Trendelenburg position. A three-lobe cyst of the left ovary, larger than a teacup, was found resting above the tube and ovary on the right side and firmly

FIG. 3.

(1) Skin covered with scattering hair. (2) Teeth embedded in mass of fat and hair. (3) Bone resembling temporal bone. (4) Cysts filled with clear fluid. (5) Uterine end of tube.

adherent to the intestines. The fimbriated end of the left tube was adherent to the cyst and a small cord (the remains of the tube) extended to its uterine end, which was about two and one-half inches in length and distended with a dark fluid. It ended abruptly, resembling a small sausage. This tumor got its blood-supply through its adhesions to the intestine.

After removing this tumor, the ruptured and still bleeding tube on the right side was readily reached and removed. The sac, containing a three- or four-weeks'-old fetus, was not broken. Before taking a photograph of it in the amniotic fluid, however, the sac was punctured sufficiently to allow the fluid to escape. (Fig. 2.) The right ovary was found to contain a number of small cysts, and was removed. One of these cysts was broken during its removal, and its contents (viscid dark-colored liquid) escaped into the abdominal cavity. The abdomen was thoroughly washed out with normal salt solution, some of which was left in the cavity to be absorbed. Abdominal drainage, with washed-out iodoform gauze, was used, and the wound closed with interrupted silkworm-gut sutures. The operation required forty minutes. The stimulation, in addition to the salt solution given while

the patient was on the table, consisted in the administration of $\frac{1}{15}$ of a grain of strychnin, several doses of sparteïn, and one $\frac{1}{100}$ of a grain of atropin. The patient rallied quickly and made a good recovery.

The drain was removed on the third day and the sinus was found to be infected. This probably resulted from the escape of the cystic fluid into the abdominal cavity, as the contents of dermoids are usually infectious. The sinus has since closed, and the patient is now in good condition.

The three-lobe cyst of the left ovary contained a clear fluid in two lobes, and the third was filled with a thick, fatty substance with hair mixed through it. It also contained a piece of skin covered with hair, a piece of bone

FIG. 4.

(1) Number of small cysts containing fat and hair. (2) Solid body shaped like fetal head. (3) Lock of hair one inch long.

resembling the temporal bone, and a rudimentary portion of the inferior maxillary containing four teeth. The right ovary was divided into six cysts or sections, a majority of which contained a fatty substance, and all of which contained some hair. One of them contained a solid body the size of a small walnut, shaped much like a fetal skull, and covered with fuzzy hair, with one small lock of hair about an inch long in one place. On cutting this mass open it was found to contain lines of gray matter resembling brain tissue.

From the study of this case, I conclude: First, that these dermoids were congenital; second, that the unusual menstrual history was due to the fact that only a very small portion of ovarian tissue was present; third, that the cause of the tubal pregnancy was a contracted tube, due to a salpingitis, and possibly a tubal abscess at the childbirth fifteen years before; fourth, that the destruction of the left tube was due to a twist in the pedicle which shut off the blood-supply from the tumor and resulted in the attack of peritonitis seven years ago, the adhesions from which furnished the tumor with sufficient blood to prevent gangrene.

THERAPEUTIC NOTES.

The Use of Xeroform in the Spanish Army in Cuba.—NOGUERA (*Rev. de Ther. Med.-Chir.*, August 1, 1899), who had occasion to employ xeroform in a number of wounds produced by firearms and swords during the late Cuban war, concluded that it is a powerful antiseptic capable of rendering great service in military surgery. If it does not produce a more active cicatrization than other antiseptic powders, it has the property of absorbing and sterilizing the secretions of the bloody surfaces, thus keeping the wound perfectly dry and protecting it from secondary infection. These properties make it especially valuable for the first dressing of a wound on the field of battle. For the same reason it is useful in hospitals in which attendants are few and not especially well trained. It stimulates the formation of small, firm granulations. Sprinkled on a denuded surface it does not cause pain or irritation. It is not absorbed and therefore does not give rise to intoxication. It is far superior to iodoform and costs less.

The Treatment of Furunculosis of the Ear.—LAMAN, OXEL and MULLER (*Revue de Ther. Med.-Chir.*, August 1, 1899) recommend for use in furunculosis of the external auditory canal an ointment composed as follows:

℞	Zinci oxidi	ʒ j
	Acidi carbolici	gr. x
	Vaselini alb.	ʒ j.

A sound is evenly covered with a layer of cotton upon which the ointment is smeared. This tampon should have a cylindrical shape possessing the same diameter throughout. The greater the swelling of the auditory canal the greater should be the pressure of the tampon. As the swelling disappears the size of the tampon may also be reduced. In order to saturate the tampon thoroughly, it should be twice heated over a lamp and three times immersed in the ointment. The external auditory canal should be douched with a solution of lysol, 20 drops to a glass of water, before the tampon is introduced. The tampon must be large enough to encounter considerable resistance in its introduction. In most cases the first introduction will be extremely painful, but this pain will begin to disappear in four or five minutes. If it fails to do so, the tampon should be withdrawn and a slightly smaller one introduced. The tampon should not protrude beyond the auditory canal. It should be withdrawn after twenty-four hours and the canal syringed. It may be reintroduced if necessary. In ninety per cent. of the cases three applications will be found to be sufficient.

Treatment of Leprosy by Injections of the Oil of Chaulmoogra.—TOUTOULIS-BEY (*Rev. de Therapeut.*, August

15, 1899) treated a patient by injections of the oil of chaulmoogra in order to save the patient the disgust which its odor produces and to avoid the gastric disturbances which follow its administration by mouth. He injected subcutaneously 5 grams (75 minims) of the oil every second or third day. A little pain followed the injection, but there was no inflammatory reaction. The appetite was better than when the oil is taken by mouth, and the nausea and vomiting were altogether avoided. A patient who in 1894 received 128 injections during seven months, recovered the function of his sweat-glands which had been wholly lost. In 1896 106 injections were made. The normal color of the skin reappeared, and the fingers, which up to this time had been flexed, could again be straightened. In 1897 he received 87 injections; in 1898, 50, and in 1899, 33. In all he received about 90 ounces of the oil, each injection representing about 220 drops. The only trace of leprosy which remained was a single nodule in the ulnar region.

Urotropin as a Disinfectant of the Urinary Tract in Cases of Typhoid Fever Attended by Typhoid Bacilli in the Urine.—M. W. Richardson (*Jour. Mass. Assoc. of Boards of Health*, July, 1899) presents the following conclusions: The cases investigated by the writer number one hundred and four, with twenty-three positive results. (1) Typhoid organisms are present in the urine of about 25 per cent. of the cases. (2) The number of the bacilli is often enormous. Indeed, the urine may be distinctly cloudy simply from the organisms present. (3) The bacilli may persist in the urine for weeks, months, or even years after convalescence begins. (4) The virulence of the bacilli obtained from the urine was tested in one instance, and their pathogenic power equalled in every respect that of cultures obtained from the internal organs and the stools. (5) The urine of typhoid patients should, therefore, not only be rigorously disinfected during the disease, but should also be supervised carefully during convalescence.

Studies upon methods for remedying this condition resulted as follows:—(1) Irrigation of the bladder with boric acid (5 per cent.) was of no avail. Corrosive sublimate (1 to 7000) was effective. (2) Salol by the mouth, 10 grains three times daily was effective in a single case. In two cases the bacilli persisted in undiminished numbers. (3) Urotropin was used in nine cases in a dosage of 10 grains three times daily, and with excellent, not to say extraordinary, results. In every instance the organisms were removed. Moreover, this happy result was obtained oftentimes in twenty-four to thirty-six hours; and a urine which had been cloudy with bacteria would in two days become absolutely clear. In two cases, when the urotropin was stopped the bacteria returned to the urine; but a second or third dose of the drug sufficed to remove them entirely.

We have, then, before us a condition, and a remedy for that condition,—a condition the importance of which was recognized nearly ten years ago, but which has never received the attention which it has deserved. The urines in typhoid fever have been utterly neglected, while the stools were rigorously disinfected. The urines are much more to be feared than the stools. To be sure, only 25 per cent. of the cases show infected urines; but the enormous number of the bacteria, and their persistence into convalescence, makes them extremely dangerous, not to the patients themselves,—for they are, of course, immune,—but to those in their environment. We keep our diphtheria patients in quarantine until their throats are free from Klebs-Löffler bacilli. Is it not just as important that typhoid convalescents should be subjected to equally strict supervision? The answer to this question must be in the affirmative. How shall this supervision be carried out? In the first place the urines as well as the feces must be carefully disinfected throughout the disease. Then, as the temperature reaches the normal point, the urine should be examined bacteriologically, to determine the presence or absence of bacilli. If no bacilli are found, then, of course, no active measures are indicated. Before the patient is allowed to go abroad, however,—that is to say, after from two to three weeks,—a second and final examination should be made. If the urine at the beginning of convalescence shows typhoid bacilli, then urotropin should be given in 10-grain doses three times daily for a week. A week after the administration of the urotropin has been stopped, the urine should be examined again. If there are, at that time, no bacilli present, the patient may be released from supervision.

Benzoinol and Resorcin in Diseases of the Throat.—Blair (*Albany Med. Annals*, August, 1899), having tested the various mixtures of resorcin and benzoinol in diseases of the nose and throat, has adopted the following formula as the most satisfactory:

℞	Resorcin	gr. lxxx
	Eucalyptol	gr. x
	Menthol	gr. xx
	Benzoinol	oz. iv.

This mixture possesses the soothing properties of benzoinol which, when applied to the mucous membrane of the nose, will not cause a flow of secretion, and it also has the anesthetic, analgesic, and healing properties of resorcin, menthol, and eucalyptol. It has been used successfully in whooping-cough when sprayed into the nose, larynx, and lungs. In hay-fever and asthma it affords marked relief. In acute laryngitis and aphonia it easily displaces the use of cocain, to which it is far superior, in that it may be used freely without fear of the pernicious after-effects which follow the repeated use of cocain. It is non-poisonous in the dose recommended. The claims made for benzoinol and resorcin compound are thus summed up: It is markedly anesthetic and analgesic. It is antiseptic, astringent, non-poisonous, non-irritating, and healing. It is not suggestive of the drug-shop as iodin, iodoform, and carbolic acid. It has a wider range of effective application than that of any other formula for an atomizer with which the author is familiar.

For Follicular Tonsillitis and Pharyngitis.—

℞	Sodii salicylatis	ʒ ii
	Potassii chloratis	ʒ iv.

M. Sig. Dissolve in one pint of hot water and use as gargle.—*Vansant.*

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OF MEDICAL SCIENCE.

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SATURDAY, NOVEMBER 4, 1899.

THE MEETING OF THE NEW YORK STATE MEDICAL ASSOCIATION.

THE committee of arrangements for the recent meeting of the State Medical Association has abundant reason to congratulate itself and be congratulated on the fruition of its efforts in the great success that crowned this year's session. There has been too much of a spirit of *laissez aller* about the arrangements for the Association's meetings in the past and the enthusiasm evoked by the success of the recent session has been a surprise even to the members themselves. At the meeting last week more than 200 members were registered, while including guests the registration of those in attendance exceeded 300. On Wednesday afternoon, during the interesting discussion on typhoid fever, Hosack Hall at the Academy of Medicine was so crowded that its seating capacity was overtaxed and some of those in attendance were obliged to stand. For the first time the committee was able to secure reduced fares from the railroads on the certificate plan, there being more than 100 members in attendance from outside the city.

The presence at the reception to Drs. Keen, Osler, and Fitz of the most prominent members of the profession in New York City shows how interested all are in this latest phase of the Association's existence.

THE SAVING GRACE OF KNOWLEDGE IN VENEREAL DISEASE.

OUR universities throughout the country have just opened for the year, and hordes of young men, the promise and hope of the land, are already gathered at them. Fortunately or unfortunately, in these later years most of the large universities are situated in the midst of great centers of population. As a consequence, the young man, taken away from conservative home influences at a most susceptible period of life, is set down where the temptations to acts of immorality are only too appealing.

To be forewarned is to be forearmed. One of the points most insisted on, and the subject of a special recommendation at the recent International Conference for the Prevention of Syphilis and Venereal Disease (MEDICAL NEWS, September 30, 1899), was that the youth of all countries should be instructed as to the true significance of venereal disease, and the consequences that immediately and remotely pursue its victims. We have repeatedly taken occasion to call attention to this matter in the columns of the NEWS, and now that distinguished English, German, and French specialists have united in insisting on the necessity for the spread of information on this subject, during the educational period, among the youths of all countries, we deem it appropriate to again direct the attention of the members of university faculties here in America to their serious responsibility in this matter. As Mr. Jonathan Hutchinson said at the Brussels conference, wherever young men congregate there should be furnished to them instruction on the dangers of prostitution and venereal disease.

This is, of course, directly opposed to the Puritanic notions that rule public opinion here in America with regard to this delicate question. We have been accustomed to ignore the existence of the evil, as if, forsooth, our too willing ostrich-like blindness would suppress what we do not see. It is no longer the custom to think that ignorance is innocence. To deliberately suppose that the silence

of education in regard to this subject will foster either innocence or ignorance when so many agencies in our modern life are flaunting its presence would be unmitigated foolishness. The young man is given abundance of information on the subject from any and every source except the proper one.

Of late years the medical profession has learned to regard venereal disease as a much more serious matter than formerly. We now know that in its so-called milder form it is not a simple, readily curable disease. We know that infection and infectiveness may persist for years, sometimes all unknown to the patient. We know that the mutilating operations so often necessary in the case of young wives are frequently due to unconscious venereal infection from the husband. We know that the childlessness of families is not due entirely to barrenness on the part of the wives. We know that in a goodly number of the cases (at least one-fourth) the husbands are responsible. Saddest of all, even when it is a pathological condition in the wife that prevents conception, we know only too often that the condition has been acquired from her unsuspecting husband.

We do not exaggerate; we are stating conditions simply as they appear to medical men at the present time. Much of this comes as a distinct surprise to the lay mind, but it is commonplace in medical circles. We owe it to our young men that they should know something of this. One of the sad things in life, as the physician sees it, is the realization that much of this physical evil is incurred through ignorance. This is all wrong. Let the teaching faculties brush aside this false modesty and incorporate into their bodies a properly qualified medical man who shall speak with authority and with frankness of this great and growing personal and social evil.

We have spoken only of what is called, forsooth, the milder form of venereal disease. Of the dangers of the severe type even medical men seem scarcely as yet to have sounded all the depths. We do know that syphilis has a causative relation to the most serious of mental diseases, general paralysis of the insane, and to the worst and commonest of nervous diseases, tabes, or locomotor ataxia. Whether it may not bear etiologic relations to such severe constitutional diseases as pernicious anemia, diabetes, and other fatal affections remains an open question. We are not syphilophobists, nor do we think a preceding syphilis responsible for every pathologic condition that may develop in after life; we are only feebly expressing the truth as to the new significance syphilitic disease is acquiring in the minds of medical men.

The specialists at the Brussels conference declared that this disease is on the increase all over the world. Each year the duty of disseminating information as to its dangers is becoming more urgent. The duty of university faculties in the matter is to our mind perfectly clear. The young man must not be permitted to gather his information on so important a subject from quacks and charlatans who are interested in exploiting his curiosity and working on his fears. He should be taught by some one he can trust all the modern significance of venereal disease and the dangers to which he exposes himself when he incurs the risk of it. Far from proving an incentive to immorality such information would be a priceless help to the high moral principles that must eventually be his safeguard.

ECHOES AND NEWS.

The Southern Surgical and Gynecological Association.—The Twelfth Annual Meeting of this Association will be held in New Orleans, La., on the 5th, 6th, and 7th of December.

The Charlotte Williams Hospital.—The new public hospital at Richmond, Virginia, is to be named the Charlotte Williams Hospital, in memory of a daughter of Mr. John L. Williams, and that gentleman has contributed $100,000 toward its endowment.

Chicago's Death-Rate.—A total of 495 deaths was recorded in Chicago during the week ending October 23d, being 76 more than the previous week, and 130, or 35 per cent. more then the corresponding week of 1898. This increase is largely due to diphtheria.

Fire in a Hospital.—The City Home and Hospital Building at Findlay, Ohio, was destroyed October 23d by fire, the cause of which was an electric wire. The patients were removed, the last being taken out but a moment before the walls fell. The loss is $60,000.

Diphtheria at Princeton, N. J.—The Public Schools of Princeton were declared closed on October 24th for two weeks on account of the appearance of diphtheria in various parts of the town. The disease is said to be of a mild type and, although it is pretty well diffused through-

out the city, it is thought that the closing of the schools will prevent its further dissemination.

A $1000 Fee.—Coroner's Physician Meshon has sued the city for $1000, the amount of the fee which he declares is due him for conducting an autopsy on the body of H. C. Barnet, who died under circumstances similar to those that obtained in the case of Mrs. Adams, as a result of which Roland B. Molineux is to stand trial on a charge of murder. From the amount of this fee we should judge that the coroner's physician's perquisites greatly overbalance his salary.

Hospital Ship for British Soldiers.—On October 27th the British Government gratefully accepted the offer of the American women in England to equip the steamer "Maine," which has been lent without charge by the Atlantic Transport Company as a hospital for use in South-African waters. This is the same company, an American company by the way, that donated the steamer "Missouri" for use as a hospital ship by the War Department during the Spanish-American War.

Antivivisectionists at the Paris Exposition.—Dr. Luigi Galvani Doane of the Antivivisection Society states that the Society has decided to carry on its missionary work at the Paris Exposition, and that a building will be erected outside the Exposition grounds, in which exhibitions will be given illustrating the methods of the vivisectionists. Literature will be distributed, giving statistics as to the extent of vivisection, and also many alleged arguments from noted surgeons and scientists, explaining the impossibility of applying to human beings the facts demonstrated upon living animals.

Dowie, "the Divine Healer," Mobbed.—John A. Dowie, "the divine healer," was mobbed at Hammond, Indiana, on the night of October 27th, while attempting to deliver an address. He was chased by a yelling crowd, and had he not caught a flying trolley-car just ahead of his pursuers, he would have been seriously injured. Every window in the car in which he took refuge was smashed by stones thrown at him. This demonstration was on account of the death of a little girl afflicted with scarlet fever who was treated by Dowie. The Hammond people believe she might have recovered had she received the treatment of a regular physician.

London Insane Statistics.—There is reason for congratulation that no such condition of affairs exists in American institutions for the insane as is made evident in the report of the London County Council, in which are published statistics of the insane in the public asylums of London. The entire insane population of the public asylums of New York State, for instance, was 21,000 at the close of 1898, while in the institutions of London at the same period there were 14,000. Thus, London, which has a population of not much more than half that of the State of New York, has an insane population of two-thirds as many. Again, in New York the entire net increase in the number of the insane for some time past has not exceeded 650 in any one year. London shows an annual increase never less, in some years greatly exceeding this number.

Asphyxiation by Illuminating-Gas.—A case of accidental death of a prominent man from illuminating-gas has been recently reported at Syracuse, N. Y. The stop-cock of a gas-burner in his sleeping apartments was found partially turned on. A narrow escape from a similar accident recently occurred in a prominent mansion on Madison avenue, New York. It was found that the stop-cock was very loose and easily turned; a hand glass was hanging suspended by a ribbon from the stop-cock. When the person was rescued the stop-cock was found partly turned, and the only satisfactory explanation of the accident is that when the gas was turned off the hand-glass was accidentally set swinging, and the pendulum-motion gradually turned the gas on. *Ergo*, never hang anything on the stop-cock of a gas-fixture.

A Hospital Thief.—A man forty-five years old, in overalls, with tape-line and measures, called October 27th at the Memorial Hospital, at Orange, New Jersey. He told the matron that he had been sent by the local electric company to see what repairs were needed in the electric-lighting system in the hospital, and also to measure the nurses' home for wiring. He was permitted to enter the various rooms. Where there were occupants he made careful measurements and seemed so faithful a worker that he was left alone. When alone he seemed to have neglected electricity for more remunerative work. He took from various rooms money, watches, and personal trinkets. When he had finished he went back to the matron and chatted with her pleasantly a few minutes before bidding her good-bye. He had been gone several hours before the robbery was discovered.

Civilian Surgeons Aid the British Army.—Sir William MacCormac, President of the Royal College of Surgeons and Surgeon-in-Ordinary to the Prince of Wales, has offered, with two other civilian colleagues, to act as consultants at the front in South Africa. Professor MacCormac, whose experience with surgery in the field is unrivaled among Englishmen, has acted in accordance with the view of the Director-General of the Army Medical Department, who considered it would be desirable to have consulting surgeons of large experience with each force. These surgeons would be especially useful in cases for major operation and would relieve the already busy ordinary surgeons of great anxiety and responsibility. During the Franco-Prussian War there were many leading Germany civilian surgeons, and in the Russo-Turkish War many Russian civilian surgeons, and Dr. Nicholas Senn in our recent war gave his services to the Army in a consulting capacity.

Navy Needs More Doctors.—The strongest recommendation in the annual report of Surgeon-General Van Reypen, which was made public on October 23d, is that relating to an increase of the Medical Corps of the Navy. The enlisted force in the Navy has been increased during the past two years, and the Marine Corps has been increased by 3000 men; but there has not been made any provision for a corresponding increase in the Medical Corps, which is charged with the health of these men. Every surgeon who is not sick is on duty and the department has

been unable to supply surgeons for needed recruiting and other duties. It is recommended that five surgeons and twenty assistant surgeons be added to the corps, and that five of the volunteer surgeons who served in the war be transferred to the regular rolls. It is earnestly urged that the naval assistant surgeons be placed on an equality with those of the Army in pay and rank.

The Boer Hospital Service.—It would seem that in the present war the Boer hospital service, concerning which much has been said in depreciation, is in reality very well equipped. The Transvaal has the orthodox Red Cross Society and an efficient St. John's Ambulance Society as auxiliaries to the regular military medical corps. The latter is well equipped, although numerically weak. Several railroad trains have been made ready, fitted with swinging beds and all modern conveniences for alleviating suffering. The women of Pretoria and Johannesburg responded nobly to the invitation to do volunteer duty in nursing "for the sake of their Lord and their country," as the pathetic appeal read. It is said the English nurses have been put out of the hospitals at Johannesburg, the physician in charge insisting that "English women are not fit to nurse the Dutch."

Officers of the New York Medical Association. — The following officers were elected to serve for the ensuing year: President, Dr. E. D. Ferguson of Troy; vice-president for the First district, Dr. Charles H. Glidden of Little Falls; vice-president for the Third district, Dr. J. M. Farrington of Binghampton; vice-president for the Fourth district, Dr. W. H. Thornton of Buffalo; vice-president, for the Fifth district, Dr. J. C. Bierwirth of Brooklyn; treasurer, Dr. E. H. Squibb of Brooklyn; secretary, Dr. M. C. O'Brien of New York City. Council, First district, 1900 term, Dr. Douglas Ayres of Fort Plain; 1901 term, Dr. Charles Munger of Knoxborough; Second district, Dr. E. M. Lyon of Plattsburgh; Third district, Dr. W. L. Ayer of Owego; Fourth district, Dr. M. W. Townsend of Buffalo; Fifth district, Dr. Frederick Holme Wiggin of New York; member of Council at Large, Dr. Joseph D. Bryant of New York City.

Tuberculosis in Old Papers.—The New York State Board of Health has received a communication from the Board of Health of Michigan stating that twenty clerks in that State, who were working over several volumes of records, were taken ill with consumption and had died. The books were examined by a bacteriologist, who found them full of tubercle bacilli. It is thought that they became infected from a clerk who had consumption, and who had the habit of moistening his thumb with saliva when he turned a page. Twenty clerks employed in a German labor bureau were recently taken ill within a short period of time, all of them having worked over records which upon examination by a bacteriologist were found to be infected through and through with tubercle bacilli. Investigation proved that the books had probably been infected by a consumptive clerk who had the habit of moistening his finger in his mouth whenever he turned the pages of a book. Thus all the books had become thoroughly infected.

The Alvarenga Prize. — The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, amounting to about $180 will be made on July 14, 1900, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in Medicine, but cannot have been published, and must be received by the Secretary of the College on or before May 1, 1900. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of the competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1899 has been awarded to Dr. Robert L. Randolph of Baltimore, Md., for his essay, entitled "The Regeneration of the Crystalline Lens; an Experimental Study."

Lockjaw Due to Vaccination.—A despatch from Newburgh, N. Y., announces the death of a young women "from lockjaw brought on by vaccination." The despatch adds that "she was vaccinated in accordance with a compulsory vaccination law." It is quite worthy of belief that lockjaw did follow compulsory vaccination in this case. It is still more worthy of belief, however, that the lockjaw was a post hoc rather than a propter hoc. Lockjaw is a specific disease, the result of a specific infection, and has no more to do with vaccination than it has with a simple scratch upon the skin or an injury to the foot. The germs of tetanus may gain access to the human system through the delicate wound made by the vaccinator just as they may through any other wound. The occurrence, however, is a rare accident, and is entirely irrelevant to the merits or demerits of vaccination as a protection against smallpox. Certain localities seem to harbor the cause of lockjaw, rendering the simplest abrasion of the skin liable to be attended by the most serious possibilities. Newburgh may possibly be such a region, but whether it is or not, the unfortunate event announced in the despatch should not for a moment check the confidence of any sane person in the beneficent effects of vaccination. The more recent report that four children in one family at Highland Falls, near Newburgh, are dangerously ill from probable tetanus following vaccination adds color to the suspicion that that neighborhood is a tetanus-breeding region.

MEDICAL MATTERS IN NEW YORK.

DEATH OF DR. PHILIP SCHEU—DELMONICO FARE AT BELLEVUE — CHAMPAGNE STATISTICS—SMALLPOX CASES—HEBREW CHARITY—NEW DISPENSARY OPPOSED—OCULISTS FAVORED IN DISPENSARIES—GROUNDLESS ARREST OF PHYSICIANS—THE STATE MEDICAL ASSOCIATION.

Dr. Philip Scheu died October 21st of meningitis. He graduated from the College of Physicians and Surgeons and the College of Pharmacy, and was a member

of County Medical Society and the Physicians' Mutual Aid Association. He was forty-one years old.

Maggie Clancy was formerly a laundress in the employ of Charles Delmonico. On October 21st she was caught in an elevator in the Delmonico building, and her right leg was crushed. She was taken to Bellevue, where she is now convalescing. Every day a liveried man drives to Bellevue in a cab and carries to the bedside of Miss Clancy an immense basket containing a Delmonico dinner. She takes all she desires, being served the while by this Delmonico waiter, and then distributes the remainder among her sister patients.

The following statistics should gladden the heart of Dr. Hillis of this city, who has recently given forth a sort of scientific rhapsody in praise of alcohol. In 1898 the amount of champagne exported from France was 19,682,000 liters or bottles, valued at 91,327,552f. (£3,653,100). The export to Great Britain was 10,599,300 liters; Belgium, 2,778,700; Germany, 1,859,200; United States and Canada, 1,419,400; Russia, 498,500; Holland, 468,400; Sweden, 259,200; Denmark, 188,700; Austria and Hungary, 152,300; Switzerland, 141,400; Italy, 129,700; Australia, 125,600; Norway, 108,200; Argentina, 100,300, and India, 100,000.

A two year old child, living in the six-story tenement at 43 Washington street, was found by Dr. Somerset of the Board of Health to have smallpox. The child and its mother were at once sent to the Willard Parker Hospital. Charles H. Brown had been riding on street-cars in Manhattan and Brooklyn for several days before it was discovered that he was suffering from smallpox. He was taken to North Brother's Island in a moribund condition. He had been living in the Glenmore House on the Bowery, after which he went to the Clinton House on Myrtle avenue, Brooklyn. These places have been disinfected, and the sanitary inspectors are watching their lodgers closely.

The United Hebrew Charities celebrated its twenty-fifth anniversary in connection with the annual meeting and election of officers on October 25th. Dr. Lee K. Frankel, manager of the Society, gave in detail the result of his investigation of the alleged pauperizing influences of organized charity. "It is safe to say," he said, "that generally temporary distress is the primal cause of the application, and that as soon as the conditions which produce the distress are removed the application is no longer a burden to the Society."

Dr. Frankel emphasized the alarming increase of tuberculosis among the Hebrews of the congested tenement districts, and declared that owing to inadequate sanitation and the inefficient isolation of the victims of the disease on the part of the health authorities, all attempts of the Society to alleviate suffering caused by consumption had been practically futile. The total receipts of the Society for the fiscal year were $149,748.02, and the disbursements $151,155.48. During the year 4542 new applications for aid were received, and the number of recurrent cases was 18,722. During the twenty-five years of the Society's existence the total receipts had been $2,514,859.53, and the disbursements $2,512,400.64. The number of patients treated was 323,361.

During the past week there was a hearing before Dr. Stephen Smith, of the State Board of Charities, of the application for a charter to be granted to the "Emanuel Hospital and Dispensary," which it was proposed to establish in East Broadway. The application stated that $40,000 was available for the institution, and a further amount of $60,000 had been promised. Members of the Medical League and a number of other physicians were present to oppose the granting of the charter; they insisted that the East Side is abundantly provided with hospitals and dispensaries, and, moreover, nearly the entire population of this district belongs to sick-benefit societies. It was claimed that the Gouverneur Hospital and the Beth Israel Hospital provide ample facilities for the neighborhood. Decision was reserved, although one of the directors of the proposed institution declared after hearing the arguments of the opposition that he would resign.

Louis L. Ferguson, Esq., president of the Optical Society, charges that there is collusion between physicians attached to free clinics and some of the ophthalmic hospitals and certain opticians, whereby the physicians obtain a commission from the sale of glasses to poor patients. Mr. Ferguson declares that dispensary patients having their eyes examined are given prescriptions for glasses written in cipher, and are directed to go to certain opticians to whom alone the cipher is intelligible. "This establishes a practical monoply, and the favored opticians can extort from the patients the largest price possible." Mr. Ferguson cites a number of instances which he considers substantiate his charges.

Dr. Charles H. May, chief of the ophthalmic division of the Vanderbilt Clinic, with whom Mr. Ferguson corresponded on the subject, stated that in his clinic the prescriptions were formerly written in cipher in order to protect the patient against incompetent oculists. These prescriptions were known only to certain opticians of tried reliability. Thus the patients were insured perfectly fitting glasses and indirect recompense was provided to the clinic itself for the expense it is subjected to in supplying free glasses for patients too poor to buy them. The clinic did not receive a commission from its official opticians, but occasionally received lenses and instruments from them. At present the clinic, of which Dr. May is chief, does not make use of a cipher, but telephones the prescriptions to the official oculists.

The following incident illustrates one of the many dangers to which the reputable physician is exposed. Nora Seltz, of 520 Third avenue, died in Bellevue on October 18th from the effects of a criminal operation. Some days before this Miss Mary Reed, of the same address, called to see her, and finding that she was sick, went to Dr. Harry R. Purdy, who visited the patient knowing it to be a charity case, and that he would receive no fee. Dr. Otto Maier also attended on the same understanding. Immediately after her death both these physicians were arrested by Police Captain Delaney, and they both protested that they were in absolute ignorance of the fact that the woman was suffering from a criminal operation,

and stated that they had treated her for rheumatism. Each was put under $1000 bail. At the inquest on October 27th many prominent physicians appeared to testify to the high standing of Drs. Purdy and Maier, but the good sense of Coroner Fitzpatrick rendered such testimony superfluous. The coroner, who was greatly surprised at Captain Delaney's action, dismissed the physicians without requiring explanations of them. They, however, demanded to be put on record, and so each testified concerning his connection with this case. Drs. A. A. Smith and Dr. W. J. Beveridge, house surgeon at Bellevue, testified that there was nothing to show that she was suffering from anything but rheumatism.

Several years ago a young woman in this city died of puerpural sapremia. Shortly before her death, in an ante-mortem statement, she accused a certain physician of having operated upon her. He declared that, although she had called at his office, he had seen her but once, and that, on finding her errand to be to importune him to induce an abortion, he had absolutely refused to treat her, that he had not prescribed for her, and that he had not examined her in any manner whatever. However, he was arrested and imprisoned; he was for a long time under bonds; his name was exploited in the public press in connection with the case, and he had to pay heavily, without hope of remedy, for the services of counsel, not to speak of loss of time, the injury to his practice, and the great mental strain to which he must have been put. Finally, after a number of weeks, his case came up before the grand jury, and that body, in refusing to indict him, placed the guarantee of the law upon the truth of his statement, and established his innocence.

The safest way, though from the experience of Drs. Purdy and Maier we see there is no absolutely safe way, is not to make any examination, digital or otherwise, except in the presence of a colleague, in such cases where one may be called upon to see a patient suffering suspiciously, especially from the more or less disastrous results of a criminal operation. Nor should we induce an abortion, however legitimate the object, without consultation and the assistance of a colleague.

Among those from outside the State in attendance at the meeting of the New York Medical Association last week was Dr. Simmons of Chicago, the editor of the *Journal of the American Medical Association*. He seemed especially pleased that the New York Association was having so successful a meeting, and evidently looks forward to a great increase of its influence and membership as the result of the enthusiasm aroused.

The Health Department submits the following report of contagious diseases for the week ending Saturday, October 28, 1899: Measles, 176 cases, and 8 deaths; diphtheria, 206 cases, and 29 deaths; laryngeal diphtheria (croup), 13 cases, and 8 deaths; scarlet fever, 117 cases, and 4 deaths; smallpox, 4 cases; chickenpox, 18 cases; tuberculosis, 151 cases, and 140 deaths; typhoid fever, 75 cases, and 20 deaths; cerebrospinal meningitis, 6 deaths.

MEDICAL MATTERS IN PHILADELPHIA.

[From Our Special Correspondent.]

CHARGE OF ALLEGED SALE OF STATE BOARD EXAMINATION QUESTIONS—DR. WILLIAM M. WELCH ON THE PRESENT MILD TYPE OF SMALLPOX—A FLOATING DISINFECTING PLANT AND HOSPITAL FOR THE STATE QUARANTINE—EXAMINATIONS TO QUALIFY PHARMACISTS—A DINNER TO DR. A. E. TAYLOR—ANOTHER OUTBREAK OF DIPHTHERIA.

PHILADELPHIA, October 30, 1899.

THE charges recently brought by one of the daily newspapers of this city, asserting that wholesale cheating had occurred at the recent State Board examinations, are being searchingly investigated by the members of the Board, and results of an interesting character are anticipated from this probing. It is freely acknowledged that prior to the last examinations held by the Board, certain examination papers were widely circulated, sub rosa, of course, and it is further alleged that these papers were official, and contained the exact questions asked at the examination in question. The sale of such papers was a matter of common and open comment in this city, but whether these papers were actually the result of some untoward leakage from official sources, or whether they were bogus documents, floated by some swindling individual among certain dull cliques in our medical schools—these are questions which the Board is exceedingly desirous of determining. These are malodorous stories to hold the public ear, whether true or false, and it is hoped that the investigation begun by the President of the Board, will effectually disprove their truth.

A description of the present mild type of smallpox prevailing in Philadelphia was the topic presented at the last meeting of the Philadelphia County Medical Society, held October 25th, by Dr. William M. Welch, physician-in-chief of the Municipal Hospital for Contagious Diseases. Dr. Welch attributed the origin of the present form of the disease to importation from the West Indies past year by refugees who, during the Spanish-American War, escaped from Cuba to our Southern States, where infectious foci were established, the disease later spreading to many Northern States. The prevalent type of the disease has been so mild and atypical that it escaped recognition in many instances, being most commonly mistaken for chicken-pox, pustular syphiloderm, and impetigo contagiosa, and this fact alone has much to do with its rapid and extensive spread. In this connection, Dr. Welch took occasion to remark upon the meager knowledge of contagious diseases possessed by the average young medical man, and to remonstrate with city health authorities in general for their attitude in disbarring students from the study of contagious diseases in city hospitals. "It should occasion no surprise that such mistakes in diagnosis occur," continued the speaker, "for young physicians have no instruction regarding the disease. This is not the fault of the student, or of the medical colleges, but of the Board of Health, and if hospitals where such cases are cared for were thrown open to students for instruction many epidemics of this and similar diseases would be prevented." Of 5500 cases of smallpox observed by the speaker,

never before had the type of the disease been so uniformly mild and uncomplicated as during the past year. The vast majority of patients have not remained in bed after the appearance of the eruption, and it has been a novel sight to see unvaccinated patients playing baseball on the grounds of the hospital within eight or ten days after their illness began. The number of smallpox patients at the Municipal Hospital during the past year was 128, all recovering. Of this number 122 were negroes, 92 of them of the male sex, and 110 never having been vaccinated. It is probable that but for the fact that vaccination is in this city widespread and thorough, an epidemic of large dimensions would have resulted from the freedom with which many of these unrecognized cases of smallpox mingled with the other population. The onset of this mild type of the disease differs only in a degree from that of the more severe form. It commences suddenly, often with a chill, or with a slight rigor; the temperature rises to from 101° to 105° F.; there is commonly irritation of the stomach, often intense; lumbar pain is an extremely annoying symptom; and, in adults, there is frequently severe headache. Dizziness and prostration are often absent, and the entire initial stage is so slightly marked that many of the patients are not even confined to bed. In from 48 to 72 hours after the onset of the rigor the eruption appears, the temperature dropping to normal, the other manifestations of the disease rapidly abating, and the disease being practically at an end. The eruption is scanty in most cases; absence of umbilication is often present; and the vesicles change to pustules in four or five days, then almost immediately shrink and begin to dry up. The comparatively slight changes in the skin is a notable point in the disease, the true skin being but little involved, the scabs of small size, and the appearance of pigmented spots taking the place of the usual pit of the severer forms of the disorder. The type of the disease under consideration presents a clinical picture like mild varioloid, although in almost every case there has been no previous vaccination.

The officers of the State Quarantine station at Marcus Hook, on the Delaware, are endeavoring to secure an appropriation for the construction of a floating infection plant and hospital for infectious diseases to supplement the somewhat inadequate facilities of their stations on shore. The proposed vessel will contain a disinfecting-apparatus for the use of steam, similar to that in use on the "Wadsworth," in New York Harbor, and in addition will make use of formaldehyd gas in the disinfection of articles which would be injured if exposed to steam. Adequate bath-and dressing-rooms for patients will be provided, as well as a spacious ward, containing thirty beds, for the reception of patients suffering with contagious diseases.

The members of the Pennsylvania State Pharmaceutical Board have just completed a week's session held for the joint purpose of examining applicants for registration as pharmacists and qualified assistants, and for considering action against violators of the State laws providing for the regulation of the sale of drugs and poisons. In all 236 candidates were examined, only 33 per cent. of whom were successful. Of the total number of applicants 189 applied for registration as pharmacists, and 47 as qualified assistants. At present there are 7 cases awaiting trial in different courts throughout the State for alleged violation of the pharmacy laws, and the Board has also determined in about a dozen other cases that sufficient evidence has now been secured to warrant prosecutions, which will be begun at once.

The friends of Dr. A. E. Taylor, late of the Pepper Laboratory of Clinical Medicine, propose to tender him a complimentary dinner, in honor of his recent election to the chair of pathology in the University of California. The dinner will be given at the University Club on November 7th.

The total number of deaths occurring in this city during the week ending October 28th was 342, or a decrease of 42 from the number reported last week, and of 6 from those of the corresponding week last year. There were 103 new cases of diphtheria, with 19 deaths; 34 new cases of enteric fever, with 4 deaths; and 57 new cases of scarlet fever, with 4 deaths. The increase of new cases of diphtheria is so alarming that the health authorities have ordered an immediate inspection by the city medical inspectors of the public schools, with a view to preventing its spread among school children, by the immediate institution of prophylactic measures wherever needed. It is thought that a few of the schools will have to be temporarily closed for fumigation and disinfection.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

FREE CLINICS—DECISION AGAINST INDEPENDENT MEDICAL COLLEGE—MEDICAL INSPECTORS FOR SCHOOL CHILDREN—CONCEALMENT OF CASES OF SCARLET FEVER AND DIPHTHERIA BY DOWIEITES—VITAL STATISTICS—CONFERENCE OF STATE CHARITIES—PROVISION FOR EPILEPTICS AND INSANE—RESIGNATION OF DR. TICE—OFFICERS OF CHICAGO GYNECOLOGICAL SOCIETY—COMMISSIONER REYNOLDS SUSTAINED—REYNAUD'S DISEASE—PSORIASIS AND DERMATITIS HERPETIFORMIS.

CHICAGO, October 30, 1899.

FREE clinics at the Cook County Hospital is the object of a movement being agitated by the physicians and surgeons in this city. The County Board will be asked at an early meeting to abolish the law that now requires a medical student to pay $5.00 per annum for the privilege of attending surgical and medical clinics. It is said that the County derives a revenue of from two thousand to three thousand dollars for tickets of admission to the clinics. Between seven hundred and eight hundred students attend them. Friends of the officials are given free tickets, and political influences secure the remission of other fees. It is proposed that all be treated alike by giving a ticket to each student regularly matriculated in any recognized college of medicine or surgery. Some limitation may be placed on the time of the student's residence in Chicago, so that Chicago students may be favored in preference to those who live in other cities or outside of Cook County. It is thought to make the

clinics free would be a popular thing for the County Board to do.

The decision of the Circuit Court of Cook County, which excluded the Independent Medical College from the use of its corporate franchises, has just been sustained by the Supreme Court of Illinois. This college, a part of the People's Institute in Chicago, was the successor of the Illinois Health University, the charter of which was revoked by the Supreme Court in May, 1897, for the fraudulent use of diplomas. A few months before the charter of the Illinois Health University was revoked, the Faculty started anew under the name of the Independent Medical College, selling diplomas for a consideration, even though the applicants had not attended an hour at the institution and had no knowledge of medicine. In one case a hostler, living in Pennsylvania, purchased a diploma for $25.00. The Circuit Court of Cook County entered a judgment of ouster against this diploma mill on February 3d last. The college took an appeal from the judgment, which the Supreme Court now affirms.

Dr. W. S. Christopher in order to prevent the spread of contagious diseases has urged the employment of fifty physicians to examine children who have been absent from school four days or more. He presented his plan to the Board of Education and recommended it for adoption. The matter was finally disposed of at a subsequent meeting of the Board and $20,000 appropriated for this year, to be paid out of the school fund. Dr. Christopher believes the inspection will show its value in a decrease in the number of deaths of children from scarlet fever and diphtheria, diseases which always follow the fall opening of the schools. He suggests that the medical inspectors should examine the throats of the children and then make cultures for bacteriologic examination.

Attorney Barnes of the State Board of Health, it is said, will investigate cases where believers in Dowieism have concealed the existence of scarlet fever and diphtheria. As the result of disclosures made by the Health Department, as to the existence of these diseases among children, whose parents believe in Dowieism, the Board will urge the expulsion of Dowie's methods from the State at an early date on the ground that they are a menace to the public health.

An increased death-rate, which it was feared would result from exposure during the Fall Festival, is shown by the monthly report of the Health Department. Every event of public character tending to produce excitement and exposure is clearly marked by the mortuary records of the city from their beginning. A total of 495 deaths were recorded during the week, ending October 23, 1899, being 76 more than the previous week, and 130, or thirty-five cent., more than the corresponding week of 1898. The causes showing the most marked increase are apoplexy, Bright's disease, cancer, consumption, diphtheria, nervous diseases, pneumonia, etc. The weather conditions and the excitement and exposure during the Fall Festival are largely responsible for this increase, but the excessive death-rate of diphtheria, the highest for the year, is probably due to school diffusion of the contagion. Deaths from impure-water diseases continue steadily to decrease, keeping pace with the improving character of the public water-supply since lake dumping has been stopped. Only thirty-two deaths were recorded from these causes last week.

The Conference of State Charities will meet at Bloomington early next month to discuss such questions as the proper provision for epileptics, the care of the feeble-minded, provision for the insane, etc. It is well known that Illinois lacks proper provision for epileptics. The last Legislature appropriated $25 000 to found an institution for their care, and the disposition of this fund and the necessary steps that should be taken for its location will come up at this Conference. Epileptic colonies have been established in New York and Ohio, and the establishment of such a colony in Illinois is greatly desired by the medical profession.

Many questions need thorough discussion from a purely local view. For instance, there are more than 1000 applications on file for admission to the Asylum for the Feeble-Minded Children at Lincoln which cannot be granted because that institution is already overcrowded. There is also insufficient provision for the insane, and Cook County is obliged to maintain at its own expense an institution for the insane of Chicago, which will not accommodate nearly all who ought to be admitted, so that patients are being discharged from it who should be retained.

Dr. Frederick Tice, head physician at the Dunning Infirmary, has tendered his resignation to the County Board, which has been accepted. He contemplates spending two years in study in Europe.

The following officers were elected at the last meeting of the Chicago Gynecological Society: President, Dr. T. J. Watkins; vice-presidents, Drs. Reuben Peterson and L. Frankenthal; treasurer, Dr. A. H. Foster; editor, Dr. Charles S. Bacon; pathologist, Dr. Emil Ries; secretary, Dr. William H. Rumpf.

Mayor Harrison has upheld Commissioner of Health Reynolds in his contention with the drainage trustees and the government contractors, that all dumping within the eight-mile limit was a menace to public life and health. He refused to modify the order issued by Commissioner McGann stopping all dumping within the prescribed limits when the representatives of the Sanitary Board waited upon him with a request that they be permitted to finish their work of excavating this fall and dump the refuse off Thirty-fifth street, as was formerly done. Mayor Harrison thought the sanitary district could better afford to expend $15,000 or $20,000 to utilize the basin off Lake Park Front than the city government could to allow the dumping to go on within a thousand feet of the shore, when in so doing the lives and health of the people were endangered.

At a clinical meeting of the Chicago Medical Society, held October 25th, Dr. Harold N. Moyer showed a case of Reynaud's disease in a man, thirty-five years of age, whose family history is free from neurotic heredity. Patient was twenty-seven years old when the present trouble began. Dr. Moyer did not consider it a typical case of this disease, as it was impossible in the description of the

patient to identify the three stages of pallor of the surface, hyperemia, and local asphyxia. In some respects the case resembled erythromelalgia. The pain was much greater than commonly occurs in Reynaud's disease, and the redness which accompanied the swelling persisted a long time preceding death of the part. The patient has had twelve attacks, covering a period of nearly eight years. In only two instances have the attacks occurred simultaneously in two parts; in every other instance the preceding attack was completely healed before the following one appeared. An interesting point was the absence of both the left and right radial pulses, due, he believes, to anatomical peculiarities entirely apart from the disease. It is, however, a significant coincidence.

Dr. L. C. Pardee showed a case presenting simultaneously the eruptions of psoriasis and dermatitis herpetiformis, each separate and distinct and uninfluenced by the other.

SPECIAL ARTICLE.

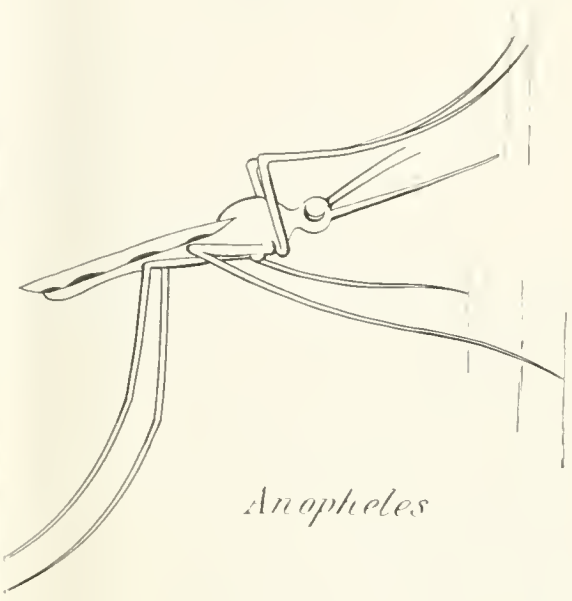
THE MALARIA-BREEDING MOSQUITO.

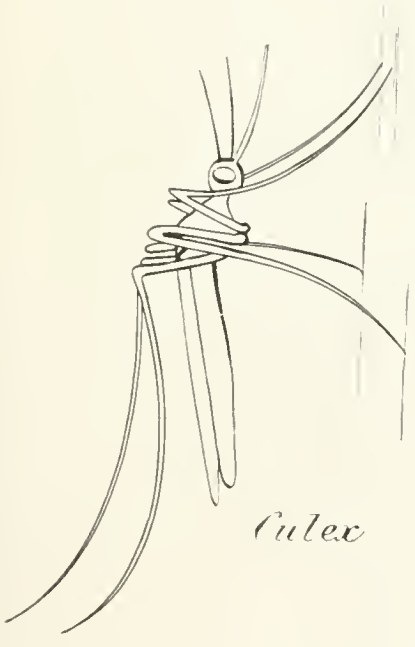
So much has been said recently about the genus mosquito which carries the malaria plasmodium that we have thought it would be of interest to our readers to know the following simple method of recognizing it. The accompanying illustrations are borrowed from the *British Medical Journal* for September 30, 1899. The easily recognizable trait of the genus *anopheles*, the only malaria bearer among the mosquitoes, is its attitude when resting on a wall. It differs in this very markedly from the genus *culex* which is the ordinary form of mosquito. The *British Medical Journal* says:

"In *anopheles* the axis of the body is almost vertical to the wall, while in *culex* it is parallel to the wall. The rough sketch above will suffice to show this. Hence any one who looks at a mosquito when it is seated—the time when it is best seen, of course—can tell at a glance to which genus it belongs. Popularly described, the tail of *anopheles* is said to "stick outwards," while that of *culex* points downward, or even a little toward the wall. In short, the *anopheles* when seated looks somewhat like a thorn affixed on a surface by the point. In *anopheles* the proboscis is directed toward the surface on which the insect happens to be; in *culex* it is directed parallel to that surface.

"Another striking difference is that in *anopheles* the wings generally have several dark spots along the anterior edge (to use popular language), while in *culex* the wings are generally plain. Ross says that this difference holds in all the mosquitoes seen by him, so that these characteristics must be pretty general. But nevertheless there are some known species of *anopheles* without spotted wings, and some known species of *culex* with them. A third difference is that in *anopheles* the proboscis appears peculiarly thick and long, giving the insect a pelican-like appearance. This is due to the palpi being held close to the proboscis."

Wherever the genus *anopheles* occurs there is danger of malaria. Other mosquitoes do not convey malaria so far as is known at present. The prophylaxis of malaria consists in getting rid of *anopheles* and protecting people against it. They bite especially at night, passing the day in a dormant state in which they may easily be caught.





Where the *anopheles* mosquito occurs, patients suffering from malaria should protect themselves from the mosquito as it is by biting them that the insect gets its store of inoculable material.

For the Pruritus of Dentition.—

℞ Cocainæ hydrochlorat. . . . gr. i
Potassii brom. . . . . gr. x
Glycerini } aa. . . . . ʒ iii.
Aq. dest. }

M. Sig. External use.—*Besnier.*

NOTABLE BOOKS.

RECENT NOTABLE BOOKS AND ARTICLES ON VACCINATION.

"VACCINATION." BY S. MONCKTON COPEMAN.[1]

"VACCINATION A DELUSION." BY ALFRED RUSSELL WALLACE.[2]

"A CENTURY OF VACCINATION." BY W. SCOTT TEBB.[3]

"THE HISTORY AND EFFECTS OF VACCINATION." *Edinburgh Review*, April, 1899.[4]

THE fact that the British Parliament thought it advisable to pass a law allowing those who had any conscientious objection to vaccination for themselves or their children to make a declaration to this effect before a magistrate and thus free themselves from the obligation of the compulsory vaccination law, has given a great impulse to vaccination literature pro and con. As to conscientious objection itself nothing better has been said than that in the new "Nox Ambrosiana" in *Blackwood's Magazine* for April.

The Shepherd (loquitur): "I wad like fine Mr. N—— to hear your defeneetion of a conscientious objector. Ma conscience gin the shepherd had his wull o them there wad na be mony sic cattle stravagning aboot the kintra-side disseminating their abominable diseases."

Kit North: "I own I have no more conception of the meaning of the word in that connection [conscientious objector to vaccination] than of the meaning of a conscientious objector to the multiplication table. I cannot, however, absolve the medical profession of all blame in the matter. Had they uttered a louder and more certain sound I believe the House of Lords at least, might have treated the bill as it deserved."

We think that these words of the illustrious North, worthily redivivus for the occasion, furnish the best reason we can give for reviewing the recent literature of vaccination. It is to be hoped that when the legislative struggle comes in this country, as come it will, if we read the signs aright, it will find a united profession which understands thoroughly the reasons for the faith that is in them as regards Jenner's great discovery.

Vaccination was introduced just a little more than one hundred years ago. It would certainly not seem too much to expect that all argument as to its utility or futility would have ceased long ere this, yet the list of works we have just quoted, which have all appeared during the last few months, seems to show that the question is still a living issue. The recent action of the British Parliament in lightening the compulsoriness of vaccination, though this was concealed behind the veil of conscientious objection to the proceedings, came as a distinct shock to the medical world. It is a good rule that *audi alteram partem*, even though one may be sure *aliunde* that the other party is wrong. It is of special interest to physicians in this case to know something of what has been said on the other side, *i.e.*, by the opponents of vaccination, because their arguments are quoted often by the non-medical public as if they were unanswerable, and it behooves one to be prepared for them. We have ventured, therefore, to throw all the important protagonists together and discuss some of their opinions where the benefit of contrasting ideas will serve to show them in their proper light.

Dr. Copeman's book is a plain matter-of-fact statement of the important points with regard to vaccination. It is not a complete treatise and will perhaps be of little value to physicians who, interested in vaccination for years, have followed more or less carefully the literature of the subject, but it is the sort of book which gives the essential facts that are so frequently the subject of discussion. As Dr. Copeman was awarded a medal for certain experimental work on the bacteriology of vaccinia, and more especially for his important practical discovery of the influence of glycerin when mixed with calf-lymph in inhibiting and finally eradicating any adventitious micro-organisms that may be present, it is evident that his work on the subject will be thoroughly up to date.

The book while in certain respects a good compilation of what has been done in vaccination is especially valuable as the record of a large amount of patient and successful original investigation. Some quotations at the beginning of the book from contemporary records serve to show how prevalent smallpox was in England before the introduction of vaccination. The following from "Pages from a Private Diary," which appeared in the *Cornhill Magazine* for January of last year shows how ever present was the thought of smallpox to the people of the prevaccination era in England. Mrs. Waller writes to her son who was in exile from England at the time and wishes to know how much dowry he is prepared to give with his daughter.

"I am not in haste to marry her," she says; "she is young enough to stay, but the danger is if she should catch smallpox and her beauty should change it would be a great loss to her."

For medical men who may have any haunting fears that Jenner's work because done a century ago was unscientific in its methods or inexact in the conclusions drawn, will find that the brief succinct review of that work by Dr. Copeman will lay all their fears in this matter. Any doubts that may exist in fair minds as to the identity of vaccinia and variola, the former being only a modification of the latter, will be laid to rest by the careful, judicious review of all the observations that have been made on this subject, especially some convincing recent experiments.

It is a distinct surprise to find a man like Mr. Alfred Russell Wallace among the antivaccinationists. He was the discoverer at the same time with Darwin of certain

[1] "Vaccination; Its Natural History and Pathology," being the Milroy Lectures for 1898, delivered before the Royal College of Physicians of London. By S. Monckton Copeman. [Work honored by a medal of the College. New York: Macmillan & Company, 1899.

[2] From "The Wonderful Century: Its Successes and Failures." By Alfred Russell Wallace. New York: Dodd, Mead & Company.

[3] "A Century of Vaccination and What It Teaches." By W. Scott Tebb, M.A., M.D. Cantab. Second Edition. London: Swan, Sonnenschein & Company, 1899.

[4] "The History and Effects of Vaccination." *Edinburgh Review*, April, 1899. A review of six recent books and articles on the subject of vaccination published in England.

principles of evolution, and his work since in biology has ranked him with the great scientists and thinkers of the century. When Mr. Wallace has anything to say he says it forcibly. His condemnation of vaccination is utter and unsparing. He says: "The operation is admittedly the cause of many deaths and of a large though unknown amount of permanent injury. The only really trustworthy statistics on a large scale prove it to be wholly without effect as a preventive of smallpox. It will undoubtedly rank as the greatest and most pernicious failure of the Nineteenth Century. It will be one of the inexplicable wonders of future generations that the delusion as to vaccination should have prevailed among men of science when progress in medicine was at its acme, at the close of a wonderful century of scientific discovery."

Mr. Wallace supports his position against vaccination by the usual arguments of the antivaccinationists: the decrease in the mortality from smallpox is due to the better sanitary conditions in the city and country, but not to vaccination. "Smallpox," he says, "other things being equal, is a function of density of population but pays no regard whatever to vaccination." One is sorely tempted to ask here if the population anywhere in the world 'other things being equal' has grown less dense in anything like the proportion that smallpox has become less frequent. Mr. Wallace holds up the crucial test of unvaccinated Leicester, with a very low death-rate. We note that very little is said of Gloucester whose bitter lesson of the fatal epidemic of a few years ago is a sad thorn in the side of the English antivaccinationists. The death-rate of unvaccinated Leicester from smallpox, some 15 per million, is compared triumphantly with the smallpox death-rate in the faithfully revaccinated army and navy, which is some 37 per million, but nothing is said of the much greater exposure of the army and navy to infection with the disease and that, too, very often under unfavorable conditions of climate and sanitation and hospital care.

The most telling reflections on Mr. Wallace's peculiar position with regard to vaccination are to be found in the opinions he advances on some other topics in the same book. For instance, in his essay on "The Neglect of Phrenology" he says: "In the coming century phrenology will assuredly attain general acceptance. It will prove itself to be the true science of the mind. Its practical uses in education, in self-discipline, in the reformatory treatment of criminals and in the remedial treatment of the insane will give it one of the highest places in the hierarchy of the sciences. Its persistent neglect during this last sixty years will be referred to as an example of the almost incredible narrowness and prejudice that prevailed among men of science at the very time when they were making such splendid advances in other fields of thought and discovery." Mr. Wallace stands absolutely alone among serious men of science in holding such opinions with regard to phrenology. They are on a par with his peculiar notions as to vaccination.

In his essay in the same volume on "Hypnotism and Psychical Research" he holds almost an equally extreme opinion. "Thought transference," he writes, "automatic writing, trance-speaking and clairvoyance have all been demonstrated. The still more extraordinary phenomena of 'veridical hallucinations,' warnings, detailed prediction of future events, phantoms, voices, or knockings visible or audible to numbers of individuals, bell-ringing, stone-throwing without visible human agency still occur as they have in all ages."

It is not necessary to comment further on the author's peculiar position as to vaccination. If anything more were needed it will be found in some reflections on his facts and statistics which we shall quote from the last of the articles on vaccination that we review in this article.

Dr. Tebb is one of the great leaders of the antivaccinationists in England. His book is an attempt to show that vaccination has never accomplished the slightest good and as it has at times done harm in various ways, by syphilitic inoculations, by lighting up erysipelas and the like, that it should be entirely abandoned. The book is a magnificent example of special pleading, written in an assumed temper of the most guileless impartiality, yet it takes but very little consideration to detect the ineradicable prejudice that has animated the writer in his every look at the subject. Appeals to popular feeling are most skilfully made by the publication of every fact that has found a place in medical literature during the century that can be made in any way to tell or seem to tell against vaccination. A number of instances from the beginning of the century in which vaccination did not protect are quoted in detail. Not a word is said of the fact that defective technic sometimes led to apparent but not real vaccination in those early days. There might be a scar due to certain germs inoculated at the same time with the supposed vaccine virus and yet the patient may not really have had vaccinia at all and consequently not have had the benefit of its protection.

A great deal is made of the various epidemics of syphilis due to the use of humanized virus taken from the persons of patients suffering from syphilis. Owing to the way in which the matter is treated the impression can scarcely fail to be left on the minds of lay readers that such epidemics are also liable to occur now. In fact Dr. Tebb deliberately and explicitly says that "there is no guarantee that syphilis or symptoms indistinguishable from this malady may not be induced by the inoculation of either human or *animal* virus." As we know absolutely no animal, least of all any of the herbivora, which is liable to syphilis the indefensible position Dr. Tebb takes is evident.

It is only a sample, though, of the methods used throughout the book to sway the unthinking to his views. All the cases of leprosy that have ever occurred as the result of vaccination with vaccine lymph from lepers are quoted in minutest detail. The total of these is not very great but the lay reader by implication is worked up to think that perhaps the communication of leprosy by vaccine lymph is possible even in countries in which the disease does not exist.

As a good model of special pleading Dr. Tebb's work can be recommended without scruple to all those whose purpose in life is that of making the worse appear the

better part. That great purpose of the sophists of old is accomplished with a skill that even the most acute of Greek dialecticians would have envied. It would require the trenchant pen of Aristophanes to properly characterize it.

The article in the April number of the *Edinburgh Review*, on the "History and Effects of Vaccination" ought to prove a good antidote to some of the dangerous matter that has found its way into circulation as a consequence of the recent agitation over the Conscientious Objection bill in England. It contains especially an excellent discussion of "Sanitation and Isolation," the watchwords of the antivaccinationists. Sanitation and isolation, according to the opponents of vaccination, have accomplished all that has been done to limit smallpox in the past and will practically eradicate it in the future. It is pointed out by the writer in the *Edinburgh Review* that smallpox does not originate in filthy surroundings, and that, if introduced it may become epidemic in the most hygienic of country districts or in well-regulated towns. As for perfect isolation for smallpox it is an illusion. Before the disease has become distinct enough for diagnosis and yet while it is undoubtedly contagious, intercourse with healthy ndividuals is inevitable. It is vaccination that has reduced the mortality from smallpox during the present century and the hope for the ultimate eradication of the disease lies in this direction.

As to the danger from vaccination the last set of statistics carefully compiled in Germany shows one death to 100,000 vaccinations, delicate children especially being subjects of even this extremely small mortality. This mortality is not due so much to vaccinia itself as to complications. The inoculation of other infectious material with the vaccine matter has been the principal cause. Now that the use of vaccine lymph which has been kept in glycerin without access of light and air for some time practically assures absolutely uncontaminated vaccine material even this death-rate will be lessened.

We may close with a citation from Dr. McVail's "Vaccination Vindicated" which the writer in the *Edinburgh Review* quotes: "Dr. McVail refers to the statements of Mr. Alfred Russell Wallace and exposes an amount of inaccuracy in assertion and statistics that is amazing and lamentable and says: 'The rule is to believe no single word that an antivaccinationist as such says without obtaining independent evidence of the truth of his assertions. No matter what the position or absolute trustworthiness of the person in every other relation of life, yet when he comes to write on this subject his every statement demands the most rigid scrutiny.'"

A New Application of the Roentgen-Rays —The most recent application of the Röntgen-rays is in the study of what may be called prehistoric zoology. Skiagraphs of the mummied animals in the British Museum have been taken on a large scale for the purpose of comparing the skeletons of the sacred monkeys, etc., with those of existing species. Several curious resemblances and some striking differences have already been made out in this study.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE OPEN-AIR TREATMENT IN LONDON—TIDE OF LONDON MEDICAL STUDENTS TO THE TRANSVAAL—TWO NEW HOSPITAL SHIPS FOR SOUTH AFRICA—OPENING OF THE SCHOOL OF TROPICAL MEDICINE—DR. PATRICK MANSON'S "POLICY OF THE RAT-TRAP"—POSITION OF MEDICAL WOMEN IN LONDON—FILTHINESS OF OPORTO—MEETINGS AND METHODS OF LONDON MEDICAL SOCIETIES—POST-GRADUATE WORK IN LONDON—INDEPENDENCE OF HOSPITAL PATIENTS.

LONDON, OCTOBER 22, 1899.

THE report of the Medical Registrar of the North London Hospital for Consumption at Hamstead, which appeared last week is a most encouraging document. Of 183 patients treated since January last no less than 43.7 per cent. have left the hospital apparently cured and returned to work and of these none who has continued to follow out the methods of living and diet in which he was carefully instructed has as yet relapsed. Distinct improvement occurred in 32.3 per cent. additional patients and slight improvements in 7.6 per cent. About 14 per cent. failed to improve and 4 per cent. died. If results like this can be secured on the edge of and often actually in the fogs and damps of London, every city should certainly have its municipal sanatorium.

The horrors of war are already being experienced with surprising promptness in the most unexpected quarter of the profession, and that is in the London post-graduate schools. The Army Medical Department is so short-handed that not only have nearly all the medical officers been either recalled to duty or detailed for South Africa, but quite a considerable number of the class of younger medical visitors to London, intending to take special hospital work, has been attracted by the opportunity for experience and adventure offered by service in South Africa. It is certainly not the salary that attracts them, for that appears to range only from about $1400 to $1800 a year. Altogether the effect on the London schools depending largely on post-graduate students, such as the Polyclinic, West London, and School of Tropical Medicine has been extremely disastrous. Some of them have lost as many as twelve or fifteen entered students from this cause alone. Professor Ogston's prognostications at the Portsmouth meeting seem to be coming true to the letter already, as the Army Department finds itself so extremely short-handed that its first step is to issue a call for civilian medical volunteers. In spite of the small salary we understand this has been promptly and largely responded to.

Another medical preparation for the contingencies in the Transvaal is of a more gratifying character, in the shape of two hospital-ships which have been specially fitted up for this emergency. Two Union Cape liners, "Spartan" and "Trojan", have been chartered for the purpose, and one of them has already been turned into an admirable floating hospital equipped with the latest electric fans for ventilation, sixty-five swing-cots so ar-

ranged that they can sway with the motion of the vessel or be locked absolutely steady, sisters' quarters and medical-officers' quarters. A most important part of the equipment, of the need of which in tropical warfare our terrible experience before Santiago served as a magnificent object-lesson to the civilized world, is a hugh carbon dioxid refrigerating-machine capable of turning out half a ton of ice per day. The operating-room is placed in a superstructure on the upper deck and is beautifully fitted up with the latest mechanism in operating-tables. A complete Röntgen-ray apparatus for the localization of bullets finishes this almost ideal equipment. As the heaviest part of the fighting is expected to occur from within sixty to a hundred miles of the coast a floating hospital of this description in the sea air will be a perfect godsend to many a poor fellow in the stream of wounded pouring back from the front.

The School of Tropical Medicine opened last week with a small, but in view of the terrible depletion of post-graduate London already referred to, a fairly satisfactory attendance. As this school, which expects to draw chiefly from Colonial medical officers, many of whom have been recalled to their posts, in addition to the army medical men, it can hardly be expected that its first attendance will reach any very considerable figure until the present war tension is removed.

Among the addresses that were delivered at the opening of the hospitals recently three have attracted general attention, not merely in the profession but in the daily press. First of these was the admirable address of Dr. Patrick Manson, at the opening of the School of Tropical Medicine, in which he graphically depicted the great public and professional advances which were to be hoped for from the newly opened campaign against the plagues of the tropics. His epigrammatic characterization of the fight against the bubonic plague, malaria, and the cholera as a campaign of the rat-trap, the mosquito-net, and the tea-kettle, was an admirable one and has stuck in the popular mind. He said that for fifteen years past he had been coming more and more to suspect the rat as the sole vehicle of contagion from one human being and from one epidemic to another in the case of bubonic plague and that the recent reports of the Plague Commission had more than sustained his pioneer position. His studies upon filariasis had led him to much the same conclusion in regard to malaria. As to cholera, it was agreed on all hands that its only vehicle is the drinking-water, and that by boiling or filtering this practical immunity could be secured, although it is earnestly to be hoped that a wider-reaching and earlier method of breaking the fatal chain of infection will be discovered ere long.

The second address which attracted special attention was that of Professor Sims Woodhead of Cambridge before the Royal Veterinary College, which all regard as an encouraging omen of the closer relations which are continually being established between the human and the veterinary practitioner, and in which each will be strengthening the hands of the other so immensely in both the study and the prevention of disease.

The third was the witty address of Dr. Garrett Anderson at the opening of the London School of Medicine for Women, which derived special importance from the fact of their entering upon the use of at least a portion of their fine new building. Dr. Anderson took the wise, and under the circumstances, the philosophic position that for the present at least a school for women only is to be regarded as preferable to an attempt to secure a mixed school. The prospects in London in the last respect are not at all as much superior to those of ten years ago as one would wish. None of the great medical hospital schools and comparatively few of the great hospitals will admit women either to their teaching or practice, and even post-graduate institutions like the Polyclinic find themselves compelled by the opposition of patients and of the mass of their male students to content themselves with trying to form separate classes and clinical demonstrations for women students alone. The objection to women physicians as such has unquestionably softened down greatly both in the profession and in the community, but at the same time there appears, to an American at least, a positively ludicrous dread on the part both of the undergraduate and the post-graduate medical student of meeting women in classes, lectures, or clinics

Medical experts have for the most part vigorously contended all through the recent, but we trust now diminishing, plague scare, that the bubonic plague could practically find no footing in any part of *civilized* Europe and now comes a full report of the state of affairs at Oporto which abundantly explains how the plague succeeded in getting its extremely insecure and slight foothold in a city which was supposed to be civilized. This cheerful town has the fourth highest death-rate in Europe, no water-supply to speak of, no regular system of drainage or of disposing of refuse, and its poorer classes live twelve or more in one room. The poverty of the people is abject, the average wage is about thirty cents a day, and the diet salt codfish and potatoes. If a patch of soil had been prepared and fertilized, warmed and watered all with special reference to growing a magnificent crop of the plague this could hardly have been improved upon, and yet the condition is, with all these shameful defects, so much superior to the present state of affairs in the Orient and to the European condition in the Middle Ages, that the plague is barely holding its own and has not spread a mile in any direction outside of the town. A city conscious of clean streets, good sewage and good water-supply can have the peace which comes from the proverbial "*mens conscia recti*" with regard to danger from the plague.

A second step in the opening of the medical year in London, the meeting of the great medical societies, was taken last week. Many of these open with a formal address followed by a *conversazione*. Dr. Frederick Roberts opened the year of the Medical Society of London by an address on "Personal Experience in Relation to Serum Therapeutics and Antitoxin Treatment." Dr. Sanson presided at the Hunterian Society and delivered an address on "The Effects of Influenza on the Heart and Circulation," while the British Gynecological Society and the Clinical Society of London had their opening meet-

ings with a regular program of papers. The medica visitor to London may at first find himself under some little feeling of embarrassment in regard to attending these society meetings, inasmuch as the name of some member is required as an introducer, but this can easily be secured by writing to any member who is to read a paper in which the visitor is interested, and indeed for a single visit the president and secretary usually leave instructions with the porter at the door to use their names for the introduction of any *bona fide* medical visitor who may come in on the evening of the meeting. Although the attendance at these meetings will not be found at all as large as would be hoped in a great city like London, yet their proceedings are usually of great interest and well illustrated with specimens, drawings, and actual cases. While some of the societies meet in widely separated regions, yet a very considerable proportion of the larger and more important ones hold their sessions in Chandos street opposite the Langham Hotel, in the building of the Medical Society of London, or in the rooms of the Royal Medical-Chirurgical Society in Hanover Square, both within a few hundred yards of Oxford Circus.

A very interesting course of weekly lectures, free to medical practitioners and senior students, on diseases of the nervous system, will be conducted during the winter on Tuesday afternoons at Queen's Square Hospital by various members of the staff. Another course of much interest to visiting medical men is to be given on Thursdays at the Hospital for Sick Children, Great Ormond street, by the staff. For this a small fee is charged. What with such courses as these in the different special hospitals and with the wide choice of courses, both more general and supplementary in character, offered by the Polyclinic and the West London Post-Graduate School, the position of the visiting medical post-graduate student in London is greatly improved and improving. Courses can now be obtained in almost any special subject from bacteriology through all the clinical "ologies" to the use of the Röntgen-rays, and although these are not yet centralized to any such desirable degree as have been effected in the great Continental medical centers yet the tide is setting steadily in that direction. A considerable degree of fusion of this description has already been accomplished by the Polyclinic and when the teaching University of London adds its powerful impulse to the others already in operation there can be little question that a great centralized scheme of post-graduate teaching and probably a great central teaching institution will grow up which will put London upon the same plane with Vienna, Berlin, and Paris as a medical Mecca.

One great obstacle to this scheme of centralizing at least the clinical part of medical teaching exists in the nature of the situation, and is not always perhaps appreciated at its full value. This is the intensely individualistic character which pervades not only all English institutions but all classes of English society, and is strikingly illustrated in the fact of there being eight self-supporting and totally independent medical schools instead of one central State-supported and regulated University, as in Berlin or Leipzig, and there will naturally be a distinct amount of friction before these can be got to fuse their differences in a common scheme. On the other hand, the patient himself is unfortunately more individualistic, in the widest and most aggressive sense, than his French or German brother. He will go to the hospital that he chooses in the first place and distinctly refuse to budge to another no matter what inducements may be offered him in the way of superior advice, and he will object to being seen by strange doctors and strange students. He will absolutely refuse to be operated upon unless the procedure commends itself to his individual judgment; his relatives after his death will bitterly oppose the use of his remains for post-mortem study, and in a score of other ways he is often a serious practical obstacle in the way of systematic clinical work. Nor does he stand alone in this, for it may never be forgotten that all English hospitals are organized for the benefit of their patients first and foremost, and it is often with the greatest difficulty that even the staff of the hospital can get permission to use its inmates for clinical purposes within its own walls. Any complaint of unnecessarily frequent or prolonged examination on the part of the patient or of fatigue in being transported to another lecture-room, or even of outraged modesty from being submitted to the gaze of a large audience of students, will be promptly taken up and supported not merely by the Board of Governors of the hospital but also by the outside public upon whose voluntary contributions the institution in most cases absolutely depends. However, and happily, both patients, Governors, and the laity are coming to recognize the true value and advantage of expert opinion and additional advice. The more intelligent class of patients is coming to respond readily to any suggestions as to methods of obtaining more light upon their cases. The Governors are finding that the hospital that does the best and most effective teaching also does far the best and most effective therapeutic work and the whole feeling of even the more ignorant class of the laity toward the profession is improving most pleasantly. There can be no question that both this sort of feeling on the patient's part and its frank and manly recognition on the part of the operator and consultant has a most valuable influence in keeping English and American hospital practice upon the highest plane of humanity, of courtesy, and in the broadest sense of true science than that which obtains in some Continental centers.

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSSOCIATION.

Sixteenth Annual Meeting, Held at the New York Academy of Medicine, New York City, October 24, 25, and 26, 1899.

First Day—October 24th.

Morning Session.

The President, Dr. Joseph D. Bryant of New York City delivered the president's annual address. Its title was

THE INFLUENCE OF MEDICAL PRACTICE UPON MEDICAL PROGRESS.

He said in brief : The practice of medicine, it must be borne in mind, should be a means of education and advance for the medical profession. There is somehow an impression that what we learn at school is the important part of our education, but this is by no means true. Medicine is an art as yet rather than a science, and it is actual practice in an art that makes its devotees efficient in its employment. The history of medicine shows that it is always considerations drawn from practice rather than from theory that have done most for the development of its possibilities for doing good.

The practice of medicine has always been a very serious profession. The first doctors were the priests, and it was among the priestly class in India that the foundations of the healing art were laid. The first medical document that we possess, the papyrus of Ebers, from about 1550 before Christ, shows that in Egypt the same thing was true. Great advances have been made, but it has only been by seriously realizing how much the practical side of medical science has done for its development. In our own day medical advances have been of so much importance that we have learned to lessen the amount especially of contagious disease and to diminish human suffering. There is even a vista opening up of a future in which many of the ailments that used to afflict mankind will be absent. We cannot get rid of all suffering, and until we have discovered and isolated and secured the antitoxin of the bacillus of old age we will not be able to get rid of senility and death. Meantime, however, we must remember that "every addition to true knowledge," as Mann said, "is an addition to human power" ; that every discovery in medical science should have its practical application. Medical-society meetings are especially useful to enable us to realize the practical application of new discoveries in medicine and, besides, to enable us to realize whether we are really serving the cause of humanity, or really personal ends. No true and adequate value can be placed on medical care. A physician's services cannot be adequately rewarded. This furnishes all the more reason for us to shun venal practice and sordid ideals. Medical society meetings prompt us to examine our medical consciences, to find out whether we are living up to our dignity as members of an honorable profession. Such meditation is healthy and healthgiving in its effects. Its periodical recurrence cannot but be of benefit to us so that these meetings have a value quite apart from the additions they may furnish to our scientific knowledge. Knowledge is the hill that few may hope to climb, but duty is the path that all must tread.

Dr. Wickes Washburn presented the report of the Committee on Charities and Public Health. He detailed the efforts that had been necessary to secure the passage of the dispensary bill. He reminded the members of the Association that now it is their duty to help in the enforcement of the law. That it would be of great benefit to the medical profession is clear, but it must not be allowed to become a dead letter. He then called attention to the suggestions that had been made by the Committee on Charities in order to secure the enforcement of the law, and asked that members take an interest in the matter.

DR. THOMAS J. HILLIS of New York County then read a paper, entitled

ALCOHOL AS A STIMULANT AND HEART TONIC ; ITS USE TO THE ANIMAL ECONOMY IN HEALTH AND DISEASE.

He said that, until recently, we have had very little definite information as to the medical properties of alcohol. There has been a good deal of talk, mostly come from those who are fanatically opposed to its use, and every good effect has been denied to it. Some even went so far as to say that it is not a stimulant. Not long ago Professor Atwater showed that it is used by the system as a food. There is no doubt that in various allotropic modifications which it undergoes in the chemical laboratory of the body it develops many other properties beyond that of stimulation. It is a tonic, heat-producing food of the most valuable kind. It has been abused and will be abused, but the abuse of a thing cannot logically be argued against the proper use of it.

It is in conditions of fatigue particularly that alcohol is of special service. It is much better than coffee and produces its effect more rapidly. When great fatigue exists it is promptly burned up in the body and does not produce its ordinary intoxicating effect. Under these conditions 8 to 10 ounces of it even may be taken and produce only slight stimulation. Like shavings in a glass furnace, it is burnt up by the fire of muscular metabolism. Much of the abuse of alcohol by the medical profession has come from the fact that it has been given too early or too late in the course of a disease, or that too much or too little of it has been given. Its administration must not be left to the nurse, but must be assumed by the doctor himself. It must be regulated not according to any fixed rule, but according to the effect produced upon the patient.

The primary factor in the matter is the stomach. If the stomach takes food well, then alcohol is not needed, but when food cannot be taken, alcohol is of the greatest service. Especially it must never be given if it disturbs the stomach. One day it may be poison in a given case and the next day it may do good. Alcohol should never be taken at the beginning of a journey, for it lowers the temperature and increases the tendency to fatigue. At the end of a journey it is usually of very great service. At the beginning of diseases that are accompanied by excitement it will do harm. In exhausted conditions of the patient, especially when nutriment is not taken well, it is of the greatest service. It acts in four minutes, while beef-tea requires twenty to act and is not as efficient. Alcohol should never be taken immediately after meals, for it paralyzes the digestive ferment, coagulates the albuminoids, relaxes the walls of the stomach, and may stop the process of digestion entirely. Three hours after digestion, especially if the fatty acids are

present, causing the condition known as pyrosis, alcohol will neutralize the fatty acids, stimulate the peristaltic action of the stomach, and get rid of the uncomfortable feeling.

In the discussion which followed the reading of the paper, DR. DIDAMA of Syracuse said that alcohol is not his sheet-anchor in practice; in fact, that he had not used it at all during the last five years, and while he does not find fault with those who use it carefully, he thought that it can easily be replaced in therapeutics by drugs that do not possess its dangerous qualities.

DR. MARCY of Boston said that while acting as a surgeon during the Civil War he had found that twenty-minutes' rest with a cup of coffee was a good deal better for fatigued soldiers than a ration of whisky.

In closing the discussion, DR. HILLIS said that alcohol is under all circumstances the best tonic that we have, and that for it we should sacrifice willingly most of the drugs of the pharmacopœia.

The next paper was read by DR. WICKES WASHBURN of New York County, and was entitled

THE NECESSITY FOR EXACT EVIDENCE IN TREATING SCIENTIFIC SUBJECTS.

He presented some examples of how easy it is to be deceived in medical matters, and made a plea for more exact observation. Tubercle bacilli, after all, may be found in healthy persons. The germs float in the air and sometimes find their way into the air-passages as a consequence. They may exist there for some time without producing disease, and may be thrown off in the secretions. It must not be concluded, after a single observation, then, that a person has tuberculosis. The true scientific spirit would dictate that further examinations should be made. The same thing holds true for diphtheria. The germ of the disease has been found in healthy throats. The streptococcus has been found in the healthy urethra, yet without producing any symptoms. In these cases it is evident that the matter of a suitable soil is a very important question before these micro-organisms produce any pathological changes. These and like facts show how necessary it is to carefully weigh evidence before coming to conclusions in medicine.

The paper of DR. HENRY W. WANDLESS of New York County, "The Correction of Irregularities of the Nasal Septum and the Exhibition of New Instruments," was read by title.

DR. FRANK OVERTON of Suffolk County then read a paper, entitled

THE PHYSICIAN AS A FACTOR IN EDUCATION.

Dr. Oliver Wendell Holmes once said that every man is a trinity. He is what he thinks himself to be, what others think him to be, and what he really is. The duty of self-development requires that as far as possible what a man thinks he is and what he really is should be the same. In this matter physicians owe a duty to their patients in enabling them to get rid of certain false notions that all of us seem to imbibe by a sort of tradition, for knowledge is as much a tradition now as it was in Homer's time. Medical tradition, especially, is composed of a body of knowledge that everybody thinks he possesses, and that contains some most peculiar antique notions. As the result of this tradition doctors are continually being asked the most bizarre questions. Many physicians seem to think that they should not entirely disagree with their patients, but should rather model their answers on the knowledge the patient supposes himself to be possessed of. This, however, is a mistake, and it leads to a perpetuation of the most erroneous ideas. A great deal of good can be done by explaining simply, yet scientifically, the nature of certain things about which the patient's curiosity has been aroused. The nature of infectious diseases may be explained, and the possibility of harm that lurks in such infecting material as comes from abscesses or purulent discharges or infected wounds. In nervous patients simple information may be made a means of suggestion that will greatly help in the management of these patients.

OPERATIVE TREATMENT OF HIGH MYOPIA BY REMOVAL OF THE CRYSTALLINE LENS,

was the title of a paper by DR. CHARLES STEDMAN BULL of New York County.

Shortsightedness is the scourge of modern civilization. It has really set a limit to the usefulness of education, and is a menace to modern educational methods so that our standards for entrance to public schools will have to be altered. When progressive in young children, causing degenerative changes in the choroid and retina, and when it is of more than twelve to fourteen diopters, so that it makes the images small and blurred on the retina, even when proper correcting glasses are used, it is one of the most important affections with which the ophthalmologist has to deal. A number of operative procedures have been suggested for its relief. With the idea that it results from the pressure exerted by the external muscles of the eye tenotomies were performed at one time. One surgeon suggested the cutting out of a small piece of the cornea. Baer, in 1817, first suggested the removal of the lens. This operation was opposed by Von Graeffe, who thought that it would not stop the development of the myopia. Dunders considered the removal of the lens as little short of criminal. Of late years a great change has come over medical opinion in this matter, and now most of the authorities consider that the lens should be removed if the myopia is above sixteen diopters. It is the fad just now to laud the benefits to be derived from the operation. Knapp said a very good thing with regard to the subject long ago: "The real value of the operation will only be known when the present boom for it has passed."

There are certain dangers in the operation. First, hemorrhage; second, detachment of the retina; third, the development of secondary glaucoma; fourth, infection. The fourth may be dismissed at once with our present methods of aseptic surgery. The first and second may be much lessened by attention in the selection of cases for operation. The symptoms of glaucoma, if they develop, may be relieved by removing the lens, and any of the lenticular matter which may have escaped into

the anterior chamber. As in all such operations, of course, there is some danger of prolapse of the iris, but this can be obviated, and if the iris actually prolapses excision should be performed.

The contraindications for the operation are: Degeneration of the retina and choroid in the region of the macula; the existence of any detachment of the retina; membranous opacities in the vitreous; previous loss of one eye; lack of transparency in the cornea; the existence of any infectious disease of the conjunctiva, especially of trachoma; and, finally, advanced age. The operation should not be performed if there is less than twelve diopters of error of vision. It should not be done unless the use of strong glasses will not enable the patient to carry on his work, or unless there is true progressive mpopia. The operation should never be completed at one sitting. The anterior layer of the capsule of the lens should be lacerated, and the aqueous humor allowed to dissolve the lenticular matter. In young patients no further operation will be necessary. In older patients, should symptoms of glaucoma develop, the lens must be removed.

AFTERNOON SESSION.

DR. F. O. DONOHUE of Onandaga County read a paper, entitled

PROGRESS OF THE SCIENCE AND ART OF OBSTETRICS.

Since the days when Sir James Simpson removed some of the terrors of childbirth by the discovery of chloroform, and Semmelweis most of its dangers by the discovery of the infectious nature of puerperal fever, obstetrics has gone steadily forward until now it is one of the most advanced of the medical sciences. Especially in its conservatism have advances come in recent years. It is no longer considered justifiable to take the child's life, practically under any circumstances. Where the general mortality from Cæsarian section was ninety per cent., it is now less than nine per cent. Sanger's adaptation of the Lembert suture to the uterus is responsible for a good deal of this change, though of course a great deal of it is due to modern aseptic methods. In general childbearing has lost practically all of its terrors. What is needed now is that every physician should perfect himself in the great art of midwifery.

In the discussion DR. W. E. SWAN of Saratoga Springs said that modern discoveries are bringing us to the solution of the questions involved in that great scourge of humanity. puerperal fever. We are learning to recognize the micro-organisms that cause it. The staphylococcus has been found, and the streptococcus and in at least one case the typhoid bacillus. The treatment for these conditions is very different. Staphylococci always exist near the surface and can be removed with a dull curette and plentiful use of salt solution. The streptococcus always occurs deep in the uterine tissue and the use of the curette is not advisable. It may even do harm. It is important then that a careful investigation should be made by bacteriological methods in order to decide the pathogenic agent that is at work.

DR. RICH of Brooklyn said that not more than one finger should be used in making examinations before labor. The air also contains pathogenic germs and its admission is a source of danger. This can be avoided by the method of examination he suggests.

DR. DOUGLAS AYRES of Montgomery County read a paper, entitled

SOME PRACTICAL EXPERIENCE IN ASEPSIS AND ANTISEPSIS IN OBSTETRICS.

Physicians do not sufficiently realize how important is asepsis in obstetrical practice. It is to be remembered that 1¾ per cent. of all deaths take place from various causes during the puerperal period. In Germany statistics seem to show that 10 to 15 per cent. of the deaths in women during the period of sexual activity are due to causes connected with pregnancy. A good many of these deaths are due to chance infection during the puerperal period. No doctor should attend a woman in labor who is attending cases of any of the infectious fevers, or who is occupied in treating abscesses, or affections involving purulent discharges. It must be remembered that especially the hair and the beard are liable to carry germs of infection. Therefore, these should be carefully washed. The most elaborate precaution should be taken in the matter of bathing, etc.

The paper of DR. CHARLES H. GLIDDEN of Herkimer County, entitled

A REPORT OF A CASE OF PUERPERAL SEPSIS AND WHAT IT TEACHES,

will be published in a subsequent number of the MEDICAL NEWS.

DR. FREDERICK S. COWLES of Westbrook, Conn., read a paper, entitled

HYDRORRHEA AND HYDROSALPINX.

He described a case in which at the sixth month of pregnancy there had been an escape of fluid from the uterus but no blood. Abortion was feared but plenty of fluid remained in the uterus as ballottement could be practised. Several such attacks followed at intervals of several weeks and yet a healthy child was born at full term. Two months after labor the speaker was summoned to see the patient. He found her in severe pain that at first was referred to the umbilicus, and afterward was localized in the right iliac fossa. Her pulse was 110, and her temperature 102° F. The abdomen was tender and there was considerable tympanites. He applied an ice-bag and gave calomel and a saline. He suspected appendicitis and his suspicions were confirmed by a surgeon whom he called in consultation. The woman herself said that she felt very much as if she were going to have one of the discharges she had had during her pregnancy. This proved to be the case and the gush of fluid relieved the pain, while the other symptoms gradually disappeared. She had subsequent attacks of the same kind, each of them occurring about a week before her menses.

The source of hydrorrhea in this case would seem to be the tube and the condition to be a hydrosalpingitis. The condition is more frequent than is thought and its differ-

entiation from appendicitis makes it important. It is evident that in obscure cases which are diagnosed as appendicitis an examination per vaginam is very necessary.

DR. MAX EINHORN of New York County read a paper, entitled

A BRIEF SUMMARY OF THE INDICATIONS FOR OPERATIONS ON THE STOMACH.

It will appear in a subsequent issue of the MEDICAL NEWS.

DR. W. B. REID of Oneida County then read a paper, entitled

THE VALUE OF OPERATIVE TREATMENT FOR SPINA BIFIDA.

In a case in which the tumor was the size of a large orange and in which the arches of the second, third, and fourth lumbar vertebræ were absent he removed the tumor two years ago, raising the periosteum of the vertebræ and succeeding in getting the periosteal flaps to cover the defect. The child was then put in a plaster jacket with a window over the site of operation. Ten weeks after the operation there was a bony callus to be felt at the spot, and at the end of fifteen weeks firm bone had formed. More than two years have elapsed and the child is perfectly healthy.

In this case pressure on the sac of the tumor caused the evacuation of part of its contents, and at the same time the fontanels became tense. It used to be said that this was a contraindication to operation for spina bifida, but the success in the present case shows it is not. The London Clinical Society, after an investigation of the subject fifteen years ago, decided that the injection of the sac of spina bifida with iodin is the best means of treatment. With our modern advances in asepsis a radical operation would seem to be indicated. The danger of fatal collapse from sudden relief of pressure on the brain may be obviated as in this case by repeated tappings of the tumor with a hypodermic needle.

DR. JOHN A. FORDYCE of New York County followed with a paper, entitled

SOME CUTANEOUS MANIFESTATIONS OF SYPHILIS AND OTHER AFFECTIONS OF THE SKIN, ILLUSTRATED BY LANTERN-SLIDES.

He began by the exhibition of slides of cases of chancres on the lips, and for comparative purposes several labial epitheliomata. He pointed out that the more rapid course of the chancre and the therapeutic test besides the appearance are the important diagnostic differentials. By a number of slides he showed that where the secondary lesions of syphilis had been most marked, that there too, the subsequent lesions were likely to be most severe. One case exhibited, an extremely painful ulcer very obstinate to treatment, had developed over the sternum seemingly without external cause. The patient had had interstitial keratitis, and had the notched incisors characteristic of congenital syphilis so that the ulcer was diagnosed as due to hereditary syphilis and yielded to specific treatment. A number of cases of lichen planus were shown in which the extent of the cutaneous lesions and their symmetrical arrangement might at first cause one to think of syphilis. A case of syphilis in a woman with nephritis was shown. She did not bear mercury and the iodids well and an intense pigmentation had remained after the slow disappearance of the cutaneous lesions. At the end of two years some of this pigmentation still remained. Often in cases of nephritis salivation set in early and treatment became a difficult matter. The skin and bowels in such cases must be made to do active eliminative work.

SECOND DAY—OCTOBER 25TH.

MORNING SESSION.

DR. GEORGE W. GOLER of Monroe County read a paper, entitled

THE NECESSITY FOR STATE AID IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

Thirteen thousand cases of death from tuberculosis took place in New York State during the last year. Counting an average of one death to every four cases there were altogether over fifty thousand cases of tuberculosis within the commonwealth. At least one-fourth of these patients could have been cured, for the statistics of the best sanatoria show more than this proportion of cures. New York State owes it to its citizens to protect them from the dissemination of the disease and to prevent as far as possible the present mortality. The State now spends seven millions on the insane. No one would think of disputing the advisability of State aid in the treatment and handling of lunatics. Of late the care of epileptics also has come under State control. The result has been eminently satisfactory and the present aid will be continued and extended. State sanatoria for tuberculosis will accomplish even more good than does the State care of the insane and of epileptics. As a matter of fact, the expenditure of a comparatively small amount of money, it can be easily demonstrated, would save to the State every year immense sums of money in the health and strength of its citizens.

SANATORIUM TREATMENT AT HOME FOR PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS

was the title of the next paper, read by DR. S. A. KNOPF of New York County.

There is no doubt left now that sanatorium treatment is the ideal therapeusis for consumption. Unfortunately not all our patients can go to sanatoria. For these it is possible to institute the sanatorium treatment at home. The features of the sanatorium treatment that are of importance are the absolute regulation of the patient's life, the freedom from reinfection by care of the sputa, the spending of long hours in the open air, and the careful regulation of diet and exercise. Most of these things can be carried out at home, not so satisfactorily, perhaps, as in a sanatorium, but still with wonderful results. Tuberculous patients should be taught at once the infectiousness of their sputa, not only for others, but especially for themselves. If the danger of reinfecting themselves is insisted on their selfishness will do more to make

them keep the regulations suggested than any altruistic feeling for others.

The sputum should be received always in vessels especially designed for it. Small aluminum cups that do not look like cuspidors may beprovided for the sick room, and should have some solution in them. Vinegar is not a bad agent to employ to neutralize bacterial virulence. Patients when out of the house should not spit in handkerchiefs, but, if they can be persuaded, either in a special flask that they carry with them or in special Japanese handkerchiefs made of paper, which can be burned immediately on their return home. These handkerchiefs should not be kept in an ordinary pocket, but in one lined with rubber, or in some rubber receptacle that can be thoroughly cleaned. All tuberculous patients should be warned to wash their hands thoroughly before eating. All linen that has been worn by consumptives should at once be put to soak and boiling water should be poured over it as soon as possible.

It is advisable that consumptive patients should have their own eating utensils. But if not, at least all such articles should be thoroughly cleansed in boiling water before being used by anybody else. All kissing, especially on the mouth, should be forbidden. During cough and loud talking tuberculous patients project minute quantities of saliva in which tubercle bacilli have been been demonstrated. They should therefore be warned at such times to keep a handkerchief before their mouths. Nurses and members of the family should be warned not to be in too close proximity to patients while they are coughing or talking. Men should not wear heavy moustaches, as they gather the bacilli and may become sources of infection to others and of reinfection to themselves.

Diet is very important. Anorexia yields better very often to the culinary art than to drugs. Patients often have caprices of appetite especially with regard to such important articles of diet as milk and eggs that may be overcome by persuasion or by careful preparation of the articles in question. Raw-scraped meat pulp is a most important addition to the diet. When the yolk of a raw egg can be taken with it, the two together constitute an ideally concentrated nourishment. To milk a small amount of bicarbonate of soda and also a small amount of salt may be added with advantage, both as regards its appetizingness and its digestibility. Patients should eat their heartiest meal at the hour of the day when their temperature is lowest.

Respiratory exercises are very good for tuberculous patients. They should breathe deeply as often as they think of it, and take regular respiratory exercises every hour, or even every half hour when they feel well. Patients should practically live in the open air. If a garden is attached to the house in that, if not, on a balcony, on the roof, on a fire-escape, or barring all these close to a window. Cold weather is no contraindication to sitting out in the cold if the patient is well wrapped up. As to exercise, patients may be advised to walk, but only if it does not cause rise in their temperature. The temperature should be taken before and after the walk. Tachycardia is also a contraindication. When exercise is taken it should be during the apyretic stage.

Hydrotherapy is very important. A douche may be given over the apices of the lungs or along the side of the lungs in order to loosen up old pleuritic adhesions. Where there is not a bath-room the patient may sit in the middle of an English bathtub astride a chair, and the douche be applied from a pitcher. Doctors should prevent the marriage of tuberculous patients, and in married people, where the disease is progressive, should give directions for the prevention of conception. Pregnancy sometimes gives rise to an illusory sense of wellbeing, but only to cause a more rapid decline after labor is over.

In discussion, DR. WICKES WASHBURN said that the ideal plan would be not a sanatorium where patients alone could go, but a farm colony to which the family could transport itself. Many of the objections to a sanatorium, its lonesomeness, its lack of occupation for the mind and the hand, and the difficultyof nostalgia would be removed by this plan. He presented the following resolution: "It is the sense of the New York State Medical Association that sanatoria should be established by the State of New York for the treatment of tuberculous patients; and this plan of treatment should include a farm colony where families of tuberculous patients might live."

DR. C. C. FREDERICK of Erie County then read a paper, entitled

REOPENING THE ABDOMEN FOR POST-OPERATIVE SEPTIC PERITONITIS, WITH REPORT OF CASES.

For general septic peritonitis after operation, the reopening of the abdomen is practically of no avail. All surgeons are agreed that patients' lives cannot be saved under such circumstances. For secondary septic peritonitis, however, due to defective drainage for instance, or to inoculation by the giving way of a set of sutures in a hollow viscus, prognosis is not so unfavorable. He had four such cases to report. Two of the operations were performed in the old days when we allowed a glass drainage-tube to remain in all cases of abdominal operations. Both of the infections took place because of the drainage-tube and both patients recovered after the insertion of a gauze drain which was brought out at the lower angle of the wound. In two recent cases the abdomen was reopened successfully for secondary infection caused by the giving way of sutures. In one an extra-uterine pregnancy was removed, the sac of which was so adherent to the intestine that a portion of the gut had to be resected. The Murphy button was used for this, and when symptoms of peritonitis developed it was thought that the button had given way. The button, however, was found perfectly in place, but a portion of the gestation-sac had given way. The general peritoneal cavity seemed to be infected, and there were spots of lymph here and there on the intestines. The case looked hopeless, but after flushing out the abdomen the wound was closed once more. The patient left the table pulseless and remained so for twenty-four hours. When the speaker left the hospital he signed a blank death-certificate feeling sure that she would

die. At the end of thirty-six hours the pulse returned and the patient lives to show the death-certificate as a memento.

In another case a purulent salpingitis had opened through the rectum and through the bladder. At operation the bladder had to be resected. Symptoms of peritonitis set in, and when the wound was opened the sutures in the bladder were found to have given way. The abdominal cavity was flushed out and the symptoms gradually ameliorated. Fluctuations of temperature, with sweating and excessive prostration continued. In this state of general sepsis the patient died. After death no peritonitis was found, and it was the septic condition that caused death.

A paper was then read by DR. CROTHERS of Hartford, Conn., entitled

MORPHINISM AMONG PHYSICIANS.

Dr. Crothers who, as a statistician, has collected the statistics of the morphin, cocain, and whisky habits for the last nine years, has had his attention called to the number of physicians who give way to these habits. In a series including some three thousand physicians in the Eastern and Middle States he found that 21 per cent. indulged in alcohol to excess, that 6 per cent. had the opium habit, and that 10 per cent. indulged in opium and other drugs. A well-known professor of materia medica had the morphin habit; eight of his students developed the same thing. Physicians often switch off from alcohol to opium or other drug habits. These drug habits induce a form of chronic invalidism. While under the influence of the drug they are apt to be of a serene temperament, but are irritable and excited when out of it. They have a distinctly lower moral sense and develop tendencies to suicide, or to backbiting, or to kleptomania. They are liable to adopt peculiar notions, and to write rambling papers for medical societies. It is to be remembered that suggestion plays a very important rôle in the cure of these diseases. It is much more important than any drug, or than any form of treatment that the patient should be convinced that he is surely going to get rid of the habit and that without much difficulty.

The next paper was read by DR. CHARLES ALLING TUTTLE of New Haven, Conn. Its title was

ALBUMINURIA: ITS PROGNOSTIC VALUE IN CHRONIC NEPHRITIS.

Albuminuria does not necessarily mean the presence of nephritis, nor does its absence signify that the kidneys are healthy. Casts may be present in the urine without there being Bright's disease and not every sample of urine from a patient suffering from Bright's disease will contain casts. Casts and albumin may occur while the patient is in perfect health. The advance of chronic nephritis may be most insidious. Our present methods of examining the urine by no means give us the assurance that we have been taught to suppose. All the clinical symptoms of a case should be carefully watched and no exclusive diagnosis made on the strength of one or two negative examinations of the urine.

The next paper, read by DR. WILLIAM P. SPRATLING, Superintendent of the Craig Colony for Epileptics at Sonyea, New York, was entitled

CURABILITY OF EPILEPSY AND HOW IT MAY BE ACCOMPLISHED.

Early treatment of epilepsy is the important thing. For this purpose it must be recognized early. The ordinary text-book definition of epilepsy is often misleading. We are led to expect tonic and clonic convulsions and loss of consciousness. As a matter of fact in true epilepsy there may be either tonic or clonic convulsions, not necessarily both, and there need not be loss of consciousness. Nocturnal fits may continue for a long time unrecognized; even diurnal fits of true epilepsy may be set down as mere fainting spells. If such mistakes are made it will be impossible to prevent the formation of the epileptic habit in the nervous tissues.

It is to be borne in mind that most convulsions are the result of some pathological lesion of the central nervous system. The speaker remembered once asking Dr. Jacobi his opinion of convulsions that occur as the result of dentition. He said it was not improbable that they were due to slight hemorrhages in the brain. Some years afterward he saw with Professor Virchow specimens which demonstrated this condition, and not long afterward, discussing the subject with Dr. Heughlings Jackson, agreed that such slight hemorrhages probably occurred. A number of patients that come to Craig Colony for treatment seem to have had epileptic convulsions in infancy, some during the first six months. A number of cases develop between the ages of ten and sixteen, that is, at the time of puberty.

The important etiological element in all epilepsy is the predisposition. Thirty-five per cent. of all the patients at Sonyea were born of epileptic parents. Sixty-six per cent. come from neuropathic families, or families in which there is some diathesis such as syphilis, gout, diabetes, etc. Do not give drugs to suppress the fits; they impair digestion and disturb assimilation. The giving of bromids that is so common now is always harmful in the end. It suppresses the fits, but does nothing to cure them. Operations have practically never done any good. In forty-four operations of which he has the records only one patient was improved and even that is doubtful. Nine of the patients at Craig Colony were operated upon before they went there. They were benefited for awhile, but the convulsions returned as before. One of these patients had been to Von Bergmann in Berlin and to Horsley in London and both of them had refused to operate. A New York surgeon was found, however, willing to perform an operation. Needless to say no good resulted. The important thing for epileptics is the regulation of their diet and exercise. They should not be allowed alcohol and very little tea or coffee. The regulation of their diet should be carefully done, for they are apt to gormandize. At the colony they are always prescribed a complete change of life. Those accustomed to indoor life are gradually accustomed to work in the open air. The weak and delicate patients are given a modified rest cure. So far eight per cent. of the patient have been discharged as cured.

(To be Continued.)

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ORIGINAL ARTICLES.

THE ADVANCE IN OUR KNOWLEDGE OF TYPHOID FEVER.[1]

BY HERMAN M. BIGGS, M.D.,
OF NEW YORK;
PROFESSOR OF THERAPEUTICS AND CLINICAL MEDICINE, AND ADJUNCT PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE, UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

No apology is needed in introducing a discussion on typhoid fever, for although no medical subject has been more written about, excepting possibly tuberculosis, yet for many reasons this must always remain of absorbing interest; and the advance in our knowledge of this disease in its various phases in recent years and the terrible devastation created by it among our troops during the war with Spain have created a renewed interest in it.

The history of the development of our knowledge of typhoid fever forms an exceedingly interesting and instructive chapter in the history of medical progress. The fevers, so-called, in former times alone caused a much greater mortality than the total mortality from all causes now occurring in favorably situated localities. Under the head of fevers in the death returns were included typhoid, typhus, and malarial fever, and probably many other forms of disease whose nature was unrecognized. The differentiation was not then possible, although the occurrence of continued fever with intestinal ulceration was well known, and the characteristic types of malarial fever were long ago clearly recognized.

The first great step in the advance was made through the observations and writings of Shattuck, Gerhardt, Bartlett, and Flint in this country, and Sir William Jenner in England, which defined the characteristic anatomical lesions of typhoid fever and made possible its clinical differentiation from typhus. The first period in the history of our knowledge of the disease may be said to have terminated then at about 1850. The second period may be said to extend from this time to 1880, when the discovery of the typhoid bacillus by Eberth was announced, although for a number of years after this Eberth's observations had but little influence. During this second period important contributions were made to the morbid anatomy, clinical history, diagnosis, and treatment of this disease. The third period extends from 1880 to the present time, and it is during this time that the greatest advances have been made.

Until accurate bacteriologic investigations had corrected and extended our knowledge, enteric fever seemed a better name for this disease than typhoid fever, as it indicated the site of what appeared to be the essential anatomical lesions of the disease. The involvement of the solitary follicles and patches of Peyer in the ilium and the presence of ulceration in them were essential post-mortem for a diagnosis. Although many observers held the opinion that a typhoid infection might exist without the presence of ulceration, or, indeed, of any changes in these structures, yet the proof was wanting. Now, however, there is abundant evidence to show that while the primary localization of the typhoid infection in the lymphatic structures of the small intestines is the usual one, and is present in a very large proportion of all cases, yet the primary infection may be centered in other organs or tissues of the body, or it may take the form of a typhoid bacillus septicemia. Thus carefully observed cases have been described in which the identity of the typhoid bacillus has been established, in which the primary site of the infection was situated in the respiratory tract, the urinary tract, and the mesenteric glands and the spleen, and a number of cases have been reported in which the intestinal ulceration was confined to the colon. Many cases also of cholangitis, cholicystitis, meningitis, pyelitis, laryngitis, and inflammations of other mucous membranes have been reported as having resulted from the action of the typhoid bacillus. In the large majority of these latter the lesions have occurred secondarily and as complications of typhoid lesions of the small intestine. Of course in this connection those cases are not referred to in which various complications have occurred in the course of this disease, which were due to other micro-organisms, such as the streptococcus, staphylococcus, colon bacillus, etc. It is evident, therefore, that we can no longer properly speak of typhoid fever as enteric fever, unless under this latter term are classed only those cases in which the infection is localized primarily in the intestines.

It seems probable, from our present knowledge, that generally at some time in the course of typhoid fever the bacilli are present in the circulation in

[1] Introducing a Discussion on Typhoid Fever before the New York Medical Association at the Sixteenth Annual Meeting, held September 23–26, 1899.

small number. Only occasionally, however, do they produce local inflammations outside of the abdominal lymphatic system. Their entrance in the majority of instances, but not invariably, is no doubt through the lymphatic structures of the intestines. That the typhoid bacilli do make their way into the general circulation at some time in the course of typhoid fever in the majority of cases is shown by the presence of the bacilli in the rose-colored spots of the typhoid eruption; in the urine during the later course of the fever, and sometimes for long periods after the beginning of convalescence; and finally by the possibility of the demonstration of these organisms in the blood in many cases by proper methods of examination. Still further evidence is afforded by the presence of the bacilli after death in various organs and tissues of the body, aside from those of the abdominal lymphatic system, an observation which can only be interpreted as giving testimony to their presence in their circulation at some time during the course of the disease. Several years ago Koch told the writer that it was a common practice in the Institute for Infectious Diseases in Berlin to make cultures from the rose spots by snipping out portions of the skin for the positive diagnosis of this disease. We do not know why in rare instances the typhoid bacilli produce lesions in various parts of the body and in others do not—although present in the circulation—but this difference is probably due in part to something which causes a local diminution in resistance, and in part also, perhaps, to differences in the dose and virulence of the virus in different cases. As is now well known, any kind of injury to the tissues of the body render them more susceptible to various infections.

In no phase of our knowledge of typhoid fever have greater advances been made than in the means for accuracy of diagnosis. The observations of Pfeiffer and Gruber, showing that the blood serum of persons ill with typhoid fever exercises a peculiar agglutinating influence on the typhoid organisms in recent cultures, was reduced by Widal to a form in which it was practically available for diagnosis. This test has proved of inestimable value in affording confirmatory evidence, not only in the routine diagnosis, but especially as furnishing most valuable information in the differentiation and identification of obscure cases. While a negative result from the Widal test cannot be regarded as having much significance, a positive reaction in proper dilution is to be regarded as almost conclusive proof of the recent or earlier existence of typhoid fever in the subject. If the reaction develops while the patient is under observation—being absent in earlier and present in later tests—it is, in my opinion, to be considered as almost as strong a proof of the existence of typhoid fever as the demonstration of the bacilli themselves. Thus while the Widal reaction may be very late in its appearance, may sometimes appear only during a relapse, or may be entirely absent in undoubted, and even in fatal cases of the disease, yet when present is of the greatest possible value. The test when present in a dilution of 1 in 50 is to be ranked in importance, in the value of the positive information which it gives, next to that afforded by the demonstration in various diseases of the presence of the specific organisms causing them, as the tubercle bacillus in tuberculosis, the diphtheria bacillus in diphtheria, and the cholera bacillus in Asiatic cholera.

Still more valuable information may be derived, but at much greater expenditure of time and skill, by the demonstration, which is possible in many cases of the typhoid bacilli in the feces, urine, rose-spots, or blood of typhoid-fever patients. The newer methods of differentiation of the typhoid bacillus from the members of the colon group devised by Elsner, Hiss and others have made such demonstrations practicable in many cases where good laboratory facilities are at command. These methods, however, must be much further simplified and rendered more exact before they can be regularly employed as routine measures.

Renewed attention has been devoted in the last two or three years to the value of the diazo-reaction of Ehrlich in the diagnosis of this disease. Nearly all observers are agreed as to its almost constant presence in a decided form in the early stages. Krienkiewicz, as the result of over 16,000 tests, reports that it is always present in the first and second stages of typhoid fever. Michaelis, from Von Leyden's clinic, states that it is almost invariably present early, and sometimes as late as the twenty-second day. He regards it of great value in the diagnosis of early and doubtful cases. Thus it may be present between the third and seventh day, before the Widal reaction occurs, before the eruption appears, before there is any considerable enlargement of the spleen, and when constipation exists. In such cases a decided diazo-reaction may be of much value in confirming the diagnosis.

It is also very frequently present, unfortunately for its diagnostic value, in general miliary tuberculosis—an affection which is frequently mistaken for typhoid fever. The reaction may be of great service in the early diagnosis of relapses of typhoid fever, as it is usually present in the first days of the relapse. The increase or decrease in the intensity of the reaction has much prognostic value, and its gradual

disappearance in a case indicates an abating of the infectious process and of the fever. In my own experience it has been present in a very large proportion of the cases of typhoid fever occurring in my service during the last two years at Bellevue Hospital and St. Vincent's Hospital.

Important observations have been made in recent years with reference to the relation of typhoid fever to disease of the biliary passages and the gall-bladder. The frequent infection of the gall-bladder by the typhoid bacillus in typhoid fever has been well established, this infection apparently taking place, not through a direct extension from the intestinal canal, but through the portal circulation. Probably in many instances the presence of the typhoid bacilli in the gall bladder and biliary passages is not followed by any changes in these parts, but sometimes apparently cholicystitis and cholangitis result, or infection in the gall-bladder may serve as the starting point for the development of gall stones. The long persistence of the bacilli in the gall-bladder in some cases is a remarkable feature of these infections, the bacilli having been found in a few instances many years after the attack of typhoid fever.

The results of preventive inoculations against typhoid fever, although still very incomplete and inconclusive, seem to afford good ground for hoping that they may be of the greatest service in the prevention of this disease among troops, and among those who for any reason are much exposed to possible infection because of the nature of the sanitary surroundings or their occupation. Wright, of the Army Medical School at Netley, has been for a number of months in India inoculating English troops who volunteer to receive treatment It is stated by him that of 200 attendants at the Maidstone Asylum 95 were inoculated, and none contracted the fever during the epidemic there, while of 105 who refused to undergo the process 19 sufferered from the disease. At Khartoum, of 8 young subalterns 6 consented to receive the inoculations; the other 2 declined, and of these 1 was ill with enteric fever and the other died, while all of the 6 inoculated officers escaped. Wright states that he has inoculated 3000 soldiers, and it is reported that many of the troops going to South Africa are being subjected to this treatment.

Preventive inoculations have also been advocated by Pfeiffer and Marx and by Haffkins. These are made with attenuated or sterilized cultures, and it has been shown experimentally that they produce immunity in animals. They are followed by a febrile reaction lasting for from one to three days and some local pain, swelling and tenderness at the site of the injection. The blood-serum of patients subjected to such inoculations acquires agglutinating properties on typhoid cultures similar to that following an attack of the disease. Very little is to be said as to the specific treatment of typhoid fever. All of the attempts thus far made in the production of a curative serum have been followed by unsatisfactory results, or at least the favorable results reported have not been confirmed by other observers.

The bacteriological investigations have not only greatly broadened our conceptions in respect to the nature and manifestations of typhoid fever, but they have also contributed in a most material way to our knowledge of prophylaxis. How unsatisfactory do the earlier methods of disinfection now seem when we know that the urine, which has usually received little or no attention, contains the typhoid bacillus at some period in the course of the disease, especially during convalescence, and that these bacilli may be present in almost incredible number—estimated by Gwyn in one instance as 500,000,000 in each c. c.—and that they may remain present in the urine for months and probably for years. In the observations made in the laboratories of the Department of Health, the examinations being made largely by Dr. Hiss, out of 51 cases of typhoid fever examined during convalescence, in the urine of 7, or about 14 per cent., typhoid bacilli were found, in some one instance in large numbers, repeatedly, and as late as the ninth week. They are rarely present, however, according to our observations, early; for in 80 cases examined for diagnosis, or for confirmation of diagnosis, chiefly within the first two weeks of the disease, in only two instances were the results positive, and one of these was a case of renal infection by typhoid bacilli and not presenting at all the clinical features of this disease.

The bacilli are undoubtedly sometimes much more numerous in the urine than in the feces; but their presence in the urine is not necessarily in any way associated with the existence of renal disease. Specimens of urine containing them may show no evidence of any abnormality in the kidney or any portion of the urinary tract. The urine may be perfectly clear and liquid and show nothing in any way abnormal excepting the presence of the bacilli, or in some instances it may be slightly cloudy. Cases have been reported, however, and especially cases of so called renal typhoid, in which the presence of bacilli in the urine has been associated with acute nephritis, and sometimes with pyelitis or cystitis. In some cases in which the organisms remain for long periods after an attack of typhoid fever it seems probable that the bacilli simply multiply in the

bladder without producing any change in the composition of the urine or in the mucous membrane of the bladder. It is evident that the danger of dissemination of infection through this, until recently unrecognized, medium may be very great. With this new fact before us, how easily can all the difficulties in the way of explaining isolated cases and peculiar outbreaks of typhoid fever be disposed of, and how perplexing and complicated become the preventive measures necessary.

One fact is much emphasized in the recent observations in this as it has been in many other infectious diseases, namely, the long persistence in some cases of the infectious element. We have only to mention the cases of diphtheria in which virulent organisms persist in the throat for months after complete convalescence; arrested cases of tuberculosis in which occasionally, without any evidence of any extension of the disease, or with apparently retrogressive changes, the cough may continue and the sputum contain tubercle bacilli for twelve or fifteen years or more; influenza with the persistence of the influenza bacilli and their agency in complicating affections occurring months after the initial attack, and probably the recurrence of relapses thus brought about; the presence of gonococci in gleet discharges or in the clumps of mucus from the deep urethra several years after the acute attack and their agency in the production of late complications; the persistence of the scarlatinal infection in the discharges from the catarrhal inflammations or suppurating glands left over after the complications of scarlet fever; the persistence of pneumococci in the saliva for long periods after recovery from pneumonia, and the recurring relapses of malarial fever. I say we need only mention these familiar facts to gain a renewed appreciation of the importance in the matter of prevention of the persisting organisms in the infectious diseases and their influence in the dissemination of disease. The newer observations in typhoid fever add to the accumulating mass of evidence of this nature.

The improvements in the methods of treatment of typhoid fever are best shown by the reduction in the case fatality from this disease. Large collections of statistics of cases treated between 1850 and 1880 before the general use of hydrotherapy show that the hospital death-rate varied from 18 to 36 or 37 per cent., the last excessive mortality being found under specially unfavorable conditions, as in military hospitals. Previous to 1885 the average mortality in the French army is said to have been about 37 per cent. In contrast to this it is reported by Brandt that in the Second German Army Corps, where hydrotherapeutic measures have been thoroughly and systematically carried out, the mortality is less that 4 per cent. While cold baths have been systematically employed to a large extent in Germany since 1865, they were not in general use in other countries until a much later period. All recent reports show that through their systematic use the case fatality has been reduced in large collections of cases in various parts of the world to between 4 and 9 or 10 per cent., with an average of about 7 per cent. Where the mortality has been higher, 9 and 10 per cent., investigation has usually shown that a considerable proportion of the cases have not come under observation until the second or third week of the disease.

But while there can be no question that the use of cold baths has contributed more to this result than any other measure, yet I cannot but believe that improvements in the treatment in other respects have contributed, to no small extent, to this result. We have learned to use drugs less and less and to watch carefully the nutrition of the patient. I believe all physicians who see many cases in consultation in private practice are impressed with the tendency of the general practitioner to do too much; too often the treatment is positively injurious. Hospital patients generally receive few drugs. The average death-rate from typhoid fever in the large hospitals of the world is certainly not more than one-half, and probably not more than one-third what it was between 1850 and 1865 or 1870. The possible saving of life afforded by surgical interference in the cases of perforation of the intestine needs only passing mention in this connection.

The problems presented to sanitary authorities by the more recent observations in the bacteriology of some of the infectious diseases are simply insoluble from a practical standpoint. Who has proposed any practicable method for dealing with those cases of diphtheria in which the bacilli, persisting in the throat for months after complete convalescence, retain all their virulence and remain unaffected by any local measures of treatment? It is also evident in view of our present knowledge that the urine of every case of typhoid fever should be, not only systematically disinfected, but that it should be examined at intervals during convalescence, and the case should be kept under observation until it is permanently free from bacilli. That such measures can at present be actually carried into effect is manifestly impossible.

Fortunately in this disease it seems probable from the limited observations thus far made that the methods suggested by Richardson, of irrita tion of the bladder with 1 in 50,000 solution of corrosive sublimate and the internal administration

of urotropin cause the disappearance of the bacilli from the urine within a short time.

The frightful possibilities yet involved in the prevalence of typhoid fever were presented in a most lurid light during the Spanish war. In the face of all of the modern progress in the knowledge of the infectious diseases and the means for their prevention, and in spite of the extraordinary advances in sanitary medicine in all its phases, hundreds and thousands of our soldiers sickened and died of this disease; and many returning home while ill or during convalescence carried with them and spread broadcast typhoid infection in many towns, villages, and rural districts throughout the United States. Other hundreds and thousands of people have since contracted the disease as the result of the dissemination of the infection.

Typhoid fever, which previously prevailed particularly in the cities and large towns, is becoming more and more a disease of rural districts. In the larger cities, which are provided with a pure water-supply and an efficient sewerage system, the disease has become to a large extent one of those which results from importation of the infection from outside. The morbidity and mortality rates from typhoid fever in New York City, for example, are comparatively low (death rate .15 per 10,000 population in 1897 and .18 in 1898; increase due to typhoid fever among soldiers), and of the cases which occur careful investigation has shown that a large proportion have contracted the disease outside of the city. Of those cases developing within the city limits a few are undoubtedly the result of the transmission through direct contact; others result from milk infection derived from the country districts—several such groups of cases are traced out each year—still others are undoubtedly the result of infection through the contamination of food, oysters, fresh vegetables, etc.; a few probably receive their infection while bathing in the water of the North or East River contaminated by the city's sewage; in still others the source of the infection cannot be found, but from the very limited number of these cases it is quite evident that they are unrelated to the water-supply.

The cases resulting from contact are undoubtedly due to infection through lack of sufficient care in regard to cleanliness, the evidence of transmission through the air being far from conclusive. In these contact cases the infection is probably caused by the soiling of the hands, or the introduction of the infectious matter through the food, drink, or in some other way into the mouth. I believe there are few cases occurring in New York City which do not result from infection by some one of the means described, and for the most part derived from without the city limits. If a city is content to use for drinking purposes a water into which its own sewage or that of its neighbors is discharged, as is the case in a number of cities in this and other States, the prevalence of typhoid fever cannot be considered remarkable. The permanent and considerable prevalence of this disease in any city, in view of our present knowledge, stamps the authorities as ignorant, corrupt, or grossly indifferent to the welfare of the inhabitants. All of the advances have emphasized more and more strongly the importance of proper sanitary conditions in its prevention.

I have only attempted to indicate most briefly some of the more important contributions to our knowledge of this disease and desire to add just a word in conclusion as to the problem of prevention in the future. The solution of the problem lies in the sanitary education of our medical men and of the people. I long ago insisted upon the importance of this, and Osler has strongly emphasized this phase of the question in a recent admirable address before the New York State Medical Society.[1] Hygiene is a subject which is not studied and not taught in this country. Its simplest elements are known to the very few, even of the medical profession There is scarcely a medical school in which the students have a single course of lectures on general hygiene which is worthy of consideration. In most of them the subject is not taught at all, excepting incidentally in connection with bacteriology and medicine. The natural result is that the medical profession as a class are very deficient in a proper knowledge of the subject, or any appreciation of its importance. Sanitary officers, generally medical men appointed through political influence, without reference to fitness, receive little or no compensation for their services, and in the smaller towns, villages and rural districts are unfamiliar with sanitary methods; wanting in special knowledge of sanitary subjects, and ignorant of the possible results of sanitary reform. They have neither the means, nor can they afford the time, to acquire the knowledge requisite for the meager compensation received. The laity, knowing still less than the medical profession, are content with the existence of bad sanitary surroundings so long as they do not offend the sense of sight or smell. Consequently, we in the United States, who in almost all other practical matters and in those concerning the comforts and luxuries of living, are far in advance of European countries, in this matter which concerns our health and lives are fully a generation behind.

[1] Medical News, February 25, 1899.

An improvement in the existing conditions is to be brought about I believe:

First, by teaching hygiene in our public schools, our medical schools, and our universities.

Second, the establishment of schools for advanced work in preventive medicine.

Third, the education of men to fill the positions of medical officers of health, and the provision for them of adequate compensation and security of tenure in office.

When these measures have been instituted, and the medical profession and the laity have been gradually educated to the necessity of the maintenance of proper sanitary conditions and what these mean—the purity of the water-supply, good sewage, clean streets, and clean soil in our towns and cities—then, and not till then, will the great advance in our knowledge of typhoid fever show its full effects in the reduction of morbidity and mortality; then, and not till then, typhoid fever will begin to disappear, and the last and most important advance—the prevention of disease—will be recorded by a rapidly decreasing morbidity and mortality list, and the occurrence of such a dreadful tragedy as is recorded in the sanitary history of our war with Spain will be impossible.

EYE COMPLICATIONS IN TYPHOID FEVER.[1]

By ALVIN A. HUBBELL, M.D.,
of Buffalo, N. Y.

Eye diseases complicating typhoid fever are of such rare occurrence that many practitioners of large experience have never met them. Partly on account of their great infrequency, but more particularly because they so closely resemble in their symptoms, diagnosis, course, and treatment the same diseases arising under other circumstances, a brief and summary consideration of them is sufficient.

It is probable that some of the complications involving the interior of the eye are overlooked through neglecting to use the ophthalmoscope; but even in that case their frequency is not as great as would be expected if we take into consideration the undoubted quantity of toxins generated during the typhoid-fever process and taken up into the circulation, and the diffusibility of the typhoid-fever germs, throughout the body and their occasional pyogenic character as set forth in that classic on the "Surgical Complications and Sequels of Typhoid Fever," by our distinguished guest and learned colleague, Professor Keen.

Conjunctivitis, both catarrhal and herpetic, and inflammations and ulcerations of the cornea are seen more frequently than other eye complications, unless, perhaps, we except those more strictly functional troubles, manifested by dilatation of the pupils and weakness of accommodation. Retinal hemorrhages seem to be next in frequency, according to published reports. Other diseases which have been observed are hypopyon, suppurations of the deeper structures of the eye and panophthalmitis, iritis, cyclitis, choroiditis, opacities of the vitreous humor, opacity of the crystalline lens, optic neuritis, both retrobulbar and intra-ocular, with subsequent partial or complete optic-nerve atrophy, neuroretinitis, embolism of the central retinal artery, orbital cellulitis, thrombosis of the orbital blood-vessels, orbital hemorrhage, paralysis of the extra- and intra-ocular muscles, together with scotomata and general impairment of vision, which are but secondary to the inflammations, atrophies, or hemorrhages present, or perhaps to an overpowering toxemia which but temporarily disturbs vision and muscular action. Hemianopsia has been recorded, but can only be due to some lesion posterior to the optic commissure and not to any disease of the eye itself.

These complications seldom develop until the later stages of typhoid fever. Some of them are post-febrile in their manifestations, particularly the ocular palsies and optic-nerve atrophy.

As early as 1817 Carron du Villards[1], in an epidemic that was undoubtedly typhoid fever, observed a series of cases of persistent amaurosis. Numerous cases of the various complications above mentioned have since been recorded from time to time, the historical details and bibliography of which may be found in the exhaustive works of Fœrster,[2] Max Kneis,[3] Emile Berger,[4] and in the excellent chapter by George E. de Schweinitz in the monograph of Professor Keen already mentioned. Charles Stedman Bull has also given a brief résumé of the subject in a paper published in the *Medical Record*, April 24, 1897.

While typhoid-fever germs may, at times, be the active agents in the production of eye diseases, it is probable that their toxins, judging by analogies to diphtheria and other infectious diseases, play the more important rôle.

But whether the germs or toxins are chiely causative, they are potent in proportion to their virulence, to their detention by an enfeebled circula-

[1] Read at the Sixteenth Annual Meeting of the New York State Medical Association, held at New York, October 24, 25, and 26, 1899.

[1] "Guide Pratique pour l étude et le traitment des maladies des yeux," Bruxelles, 1838, tome II., page 504.

[2] "Graefe 'nd Saemisch's Handbuch," vol. vii, first edition.

[3] Relations of Diseases of the Eye to General Diseases," Max Kneis; American edition by Noyes, 1895.

[4] "Les maladies des yeux dans leurs rapports avec la pathologie générale," Émile Berger, Paris, 1892.

tion, and to the diminution of tissue resistance. In many cases their action may fall short of producing inflammation, amounting only to functional disturbance of vision and ocular motility, as shown by temporary impairment of vision, vascular congestion, diminished winking reflex, weakened accommodation, and dilated pupils. Such cases, as might be expected, are by far the most frequent. In other cases a superabundance of germs or an unusual virulence of the toxins in the blood often induce in the eye tissues, at a low ebb of vitality, active inflammations that terminate in destructive suppuration and ulceration The uveal tract, by reason of its great vascularity, and the cornea because of exposures, are peculiarly open to such attacks; hence, the iritis and chroiditis. The delicate nerve elements of the eye are also susceptible to such invasions; hence the neuritis and retinitis.

Besides these conditions which are evidently due to local germ action or intoxication, there are some affections which are transmitted by contiguity from preexisting, complicating diseases of the adjoining sinuses. This undoubtedly accounts for certain cases of conjunctivitis and orbital cellulitis. Embolism of the central retinal artery, with the immediate blindness which takes place in the eye whose retina is thus deprived of its blood-supply, thorombosis of the orbital veins, hemorrhages into the orbit, or intra-ocular hemorrhages are all secondary to preceding, complicating affections of the endocardium, blood-vessel walls or the blood.

In low states of typhoid fever when the toxemia is so profound as to almost paralyze the winking reflex and the secretory function of the glands that moisten the eye, the conjunctiva and cornea become desiccated, their delicate epithelium breaks down, and microbic invasion takes place with all the attendant evils of xerosis, ulceration, abscess, and ofttimes total destruction of the eye.

Fewer cases of intra ocular complications would pass undiagnosed, if practitioners would examine the eyes of typhoid-fever patients with the ophthalmoscope.

The prognosis of these complicating diseases is made more unfavorable in typhoid fever than when they are found in persons of otherwise fairly good health, and the results are bad, especially in the ulcerative and suppurative affections, in proportion to the gravity of the primary disease.

The same treatment should be adopted that would under other circumstances be suggested. Corneal and conjunctival affections may often be prevented by attending to the closure of the eyelids, if they are inclined to remain open, and to keep the parts moist by occasionally instilling into the conjunctival sac a drop or two of a normal saline, or very mild antiseptic solution.

ANGIOTRIPSY.[1]

By CLEMENT CLEVELAND, M.D.,
of New York.

Torsion and compression of the arteries are really the same in effect, and are both old. They both produce barriers against the escape of blood by causing adhesion of the inner surfaces of blood-vessels and the formation of clots. It is a well-known principle in surgery that whatever favors the production and retention of a blood-clot in a wounded vessel favors the arrest of hemorrhage. Torsion and compression of small arteries have been employed for years, and are effectually employed in every surgical operation to day.

Thirty years ago, to extend the principle to the control of hemorrhage from large vessels, Dr. J. C. Nott of New York City—in those days a man well-known as a surgeon in gynecology—invented what he named a "rectilinear écraseur." It was designed for the cure of hemorrhoids, the amputation of the cervix uteri, removal of portions of the walls of the vagina in cystocele, rectocele, and procidentia, and, to quote his words from an article published at the the time, October 10, 1871, in the *Atlanta Medical and Surgical Journal:* "This instrument answers well in the operation of ovariotomy, to sever adhesions between the tumor and walls of the abdomen, and, I think, might be trusted to divide the pedicle of an ovarian tumor, but here it has not been tested." The instrument was used extensively at the time for the cure of hemorrhoids, and a description of it, with report of cases, appeared in the *Medical Record.* It was at least an attempt to apply to large vessels the means employed in controlling hemorrhage from small ones. His instrument may rightly, then, be said to be the forerunner of the powerful instruments for blood control which are now beginning to be successfully and extensively used. A drawing of Dr. Nott's instrument may be seen in Tiemann's catalogue of surgical instruments.

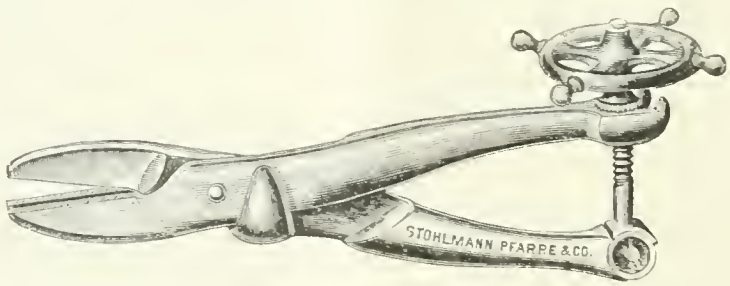
In 1897, Doyen of Paris devised an instrument for controlling hemorrhage which he called a "vasotribe," and reported a number of successful cases with its use. Later, Thumin of Berlin, after seeing and using the Doyen instrument, improved upon it in gaining greater pressure.

In 1898, Tuffier of Paris brought out his instrument, which he named an angiotribe, or vessel crusher. With it he claims to produce a pressure

[1] Presented at the Twenty-fourth Annual Meeting of the American Gynecological Society, held at Philadelphia, May 24, 25, and 26, 1899.

of three thousand pounds. I do not consider the name happily chosen, because the tissue, examined by the microscope after the use of the instrument, shows that it is not a crushing that is produced, but compression.

In the early part of December, 1898, Dr. Appert of Paris, who was sojourning in this country for the purpose of study, and who had been a frequent attendant at my clinic at the Woman's Hospital, spoke to me of this instrument of Tuffier and recounted the successes that had been obtained with it. He told me, moreover, that it had met with a great deal of defiant opposition, but was slowly and steadily forcing its way onward, because of the satisfactory and indisputable successes that were being constantly reported from its use. He promised to obtain an instrument for my use. On January 9th of this year Dr. Appert made good his promise and brought me the angiotribe, which he had just received from Paris. I at once put it to the test, and I understand, it was the first use made of it in this country. You will see, by examining the instrument or the drawing of it which is here presented, that it is merely a powerful clamp made to stand an immense leverage. The blades on their clamping surfaces present in the center of each a longitudinal groove; this is for a distinct purpose, which will appear. The pressure is produced by means of a screw, upon which works a wheel or a windlass. When in use one end of the screw is locked upon the end of one arm, while the other end fits into an open cut or claw in the end of the other arm.



In hysterectomy the instrument is applied just as any clamp would be, and the great pressure is attained by means of the wheel or windlass, by turning which the arms or handles are forced closer and closer together, and by that means, of course, bring the blades more and more firmly in coaptation. It is the rule to keep up the pressure during two minutes, that being found a sufficient time for the formation of clots in the vessels. When the uterus is cut away a short stump is designedly left, projecting beyond the surfaces of the blades. When the instrument is removed a flat ribbon of tissue, the width of the blades, is seen, with a ridge of tissue on the upper and under surfaces corresponding to the horizontal grooves above mentioned. The design is that, after the removal of the angiotribe, there will be five barriers against the escape of blood. By this is meant that blood-clots will be formed in the vessels on both sides of the blades and also in the small, central spaces produced, or rather left, by the grooves, and the compressed surfaces will be thoroughly agglutinated. These barriers are all essential, and especially the one on the inner or uterine sides of the blades, where a stump of tissue should always, as I have said before, be left to retain the clots at this point.

I had been using for a year and a half Dr. Skene's electric clamp, and had found such continued satisfaction from its use that I had become an ardent advocate of it, and, in fact, had begun to feel that there was nothing further or better to be wished for. The emancipation from the use of ligatures had afforded me the keenest satisfaction.

My first success with the angiotribe was so thoroughly startling and so satisfactory that I had to at once completely reverse my decision and admit that this new method was really a step in advance of the electric clamp. I saw that the electric clamp would still have its uses, but that the angiotribe must succeed it in the vast majority of vaginal and intrapelvic cases. I at once reported my first case in a short paper at a meeting of the Practitioners' Society of New York, held January 13, 1899. This paper was published later in the New York *Medical Record*. I quote here what was said regarding the method of application of the instrument:

"I had at my clinic that afternoon a case of double tubo-ovarian abscess, with a large, septic uterus. The vagina was capacious, so it was a favorable case for the exhibition of the instrument. The method of operation was as follows: The anterior incision across the cervix was made by the electric knife. The bladder was then separated from the cervix up to the vesico-uterine fold of the peritoneum. The posterior incision was made by the electric knife, and the tissues were thoroughly separated by the finger into Douglas' pouch. The incision was made

complete around the cervix by severing the vagina at the sides of the cervix with the electric knife. The cervix was then grasped at either side of the external os by two traction forceps, and divided longitudinally up to the junction of the cervix with the body. The left half of the cervix was drawn down and to the right, while the angiotribe was applied to the lower section of the left broad ligament. The pressure of the forceps was applied to its utmost capacity of three thousand pounds for the period of two minutes. The left portion of the cervix was then cut away from the forceps and the instrument removed. Not the slightest bleeding followed, showing that the vessels had been so completely crushed that their inner walls were thoroughly glued together. The same was done upon the right side. No bleeding followed. I then opened into the abdominal cavity anteriorly and proceeded with the bisection of the uterus until it was completed. I found, upon passing my finger into the pelvic cavity, an abscess of the tube and ovary of the left side. With some difficulty these were dug out from their bed of adhesions and drawn out. The angiotribe was then applied to the upper section of the broad ligament of the left side, back of the diseased tube and ovary, for the same period of two minutes, then the left half of the uterus was cut away and the instrument removed, and no blood followed. The same process was repeated on the other side, with a similar result. The pelvic cavity and vagina were packed with gauze in the usual way and the patient was put to bed

In this case, as following the use of the electric clamps in vaginal hysterectomy, there was the minimum amount of pain and not the slightest hemorrhage. The patient is making an uneventful recovery, with scarcely an elevation of temperature above the normal.''

Feeling that this method was a most important innovation and that others would wish to have the opportunity of employing it, I at once set to work to have the instrument copied, and Stohlmann, Pfarre & Co. of New York succeeded, after several trials, in producing an instrument fully equal to the French original. In fact, I examined every one they made until this result was attained. It may seem an easy thing for a skilled artisan in this craft to turn out a satisfactory copy of an instrument if he only has the original in his hand. This, however, does not seem to be a trait of the instrument-maker of to-day. The first instrument produced was too weak in its handles, and the edges of the blades were sharp and cutting instead of being smooth and rounded, as also the edges of the grooves; and, moreover, when full pressure was applied the blades were warped upon each other for at least a sixteenth of an inch. These difficulties were remedied as soon as the defects were pointed out. The wading through these difficulties, however, took a great deal of time. The requirements are so thoroughly understood now that I think no one need hesitate to purchase an instrument of American manufacture. I would advise, however, most careful examination before doing so, to make sure that the above-named defects do not appear.

I was enabled to continue my work with the French instrument, as Dr. Appert allowed me to retain it while he was on a three-months' trip to Mexico and the South. On his return he loaned it to other surgeons in this city, and I believe all have reported favorably in regard to it. The first accurately made instrument from Stohlmann, Pfarre & Co. is in constant use at the Woman's Hospital.

Though I have no right to quote my confrères upon the staff of the hospital, yet I think I am right in saying that the general opinion among them is decidedly in favor of the method.

As a result of the work in my service with the angiotribe at the Woman's Hospital, I present here the histories of twenty-six successful cases. An epitome of each history is here given, merely for the sake of the diagnosis and the result.

Case I.—Mrs J., aged twenty-three years, admitted to the hospital in the latter week of December, 1898. Married two years; one child born fourteen months after marriage. Gives the history of peritonitis after confinement.

Symptoms.—Constant pain in both iliac regions. Three weeks ago had recurrent pelvic peritonitis. Examination revealed enlarged, fixed uterus, with masses on both sides.

Diagnosis.—Double pyosalpinx, with probable septic uterus

Operation, January 9, 1899. Vaginal hysterectomy, with double salpingo-oophorectomy. Angiotribe used. Third day after operation temperature reached $103\frac{1}{5}^{\circ}$ F., but subsided to 99° F. on the fourth day. Subsequent history unimportant. Recovery.

Case II.—Mrs. W., aged fifty-four years, entered the hospital early in January, 1899. Married twenty five years; one child, born twenty-one years ago. One miscarriage, eighteen years ago.

Symptoms.—Pain in the right ovarian region. Has been flowing somewhat profusely for two years, sometimes lasting two weeks at a time.

Diagnosis.—Carcinoma uteri.

Operation, January 16, 1899. Vaginal hysterectomy, with removal of adnexa by the angiotribe. Duration of operation, one hour. Convalescence uneventful. Recovery.

Case III.—Mrs. M., aged twenty-one years. Admitted to the hospital January 7, 1899. Married seven years; no children; four miscarriages, last one

in July, 1897. Menstruation irregular since July, 1897. No menstruation since October, 1898.

Symptoms.—Constant pain at present in left ovarian region and back.

Diagnosis.—Enlarged, adherent left ovary.

Operation, January 30, 1899. Posterior vaginal section for removal of left tube and ovary with the angiotribe. Duration of operation, forty-five minutes. Range of temperature after operation 98° to 99⅖° F. Uneventful recovery.

Case IV.—Mrs B., aged twenty-seven years, admitted to the hospital December 17, 1898. Married eight years; two children; two miscarriages, the last five months ago. Several weeks previous to entering the hospital was taken with sudden and violent pain in both sides of the abdomen. Last menstruation December 4th; flowed nine days.

Diagnosis.—Double pyosalpinx.

Operation, February 6, 1899. Celiotomy. Removal of intraligamentous ovarian cyst with angiotribe. Time of operation, forty-five minutes. Uneventful recovery.

Case V.—Mrs. V , aged forty-two years, entered the hospital January 13, 1899. Married fourteen years; no children; no miscarriages.

Symptoms.—Constant backache and pain in ovarian regions. No pain during menstruation, which is regular and lasts four days.

Diagnosis.—Fibroma uteri.

Operation, January 16, 1899. Abdominal hysterectomy, with removal of adnexa. Angiotribe used. There was a little oozing from one of the stumps, and it was thought wise to apply a catgut ligature. Patient recovered.

Case VI —Mrs. W., aged thirty years, entered the hospital January 23, 1899. Married eight years; no children; one miscarriage seven years ago Was then curetted, and has ever since been more or less irregular.

Symptoms.—Profuse leucorrhea; constant backache.

Diagnosis.—Retrodisplacement, with adhesions.

Operation, February 20, 1899. Celiotomy with the angiotribe. Both tubes and ovaries were found diseased. Double salpingo-oophorectomy. Duration of operation, one hour. Recovery.

Case VII.—Mrs. B., aged thirty-two years, admitted to the hospital March 1, 1899. Married six years: no children; no miscarriages. On February 2, 1899, began to flow, and was continuing to do so until she entered the hospital.

Symptoms.—A great deal of pain in the left iliac region

Diagnosis.—Ectopic gestation of the right side.

Operation, March 5, 1899. Celiotomy. Ruptured tubo ovarian pregnancy of the right side. Removal by the angiotribe. The appendix, which was found diseased and adherent to the right tube, was removed by the application of the electric clamp. Upon the removal of the electric clamp the stump was found gaping. This was immediately closed by catgut ligature and covered by serous membrane. Recovery uneventful.

Case VIII.—Mrs. H., aged fifty-four years, admitted to the hospital February 24, 1899. Widow; no children; menopause at fifty. In September last had a flow of blood that lasted ten days. Has had several floodings since.

Diagnosis.—Small fibroid in uterine wall.

Operation, March 26, 1899. Vaginal hysterectomy, with removal of adnexa. Angiotribe used. Time, one hour. Recovery.

Case IX.—Mrs. R., aged twenty-nine years, entered the hospital February 19, 1899. Married ten years; two children; youngest child seven years. Three miscarriages over seven years ago.

Symptoms.—Pain in the back and ovarian region since the birth of the first child. Menstruation somewhat irregular. February 4, 1899, flowed eight days profusely.

Diagnosis.—Tubo-ovarian disease of both sides.

Operation, March 6, 1899. Posterior vaginal section followed by the removal of the right ovary and tube with the angiotribe. Uneventful recovery.

Case X.—Miss P., aged forty-nine years, entered the hospital March 6, 1899.

Symptoms.—Has flowed almost constantly for three months, quite profusely.

Diagnosis.—Fibroma uteri.

Operation, March 9, 1899. Vaginal hysterectomy, with removal of adnexa. In this case the vagina was excessively small, and there was naturally some difficulty in applying the angiotribe. The perineum was ruptured during the process, and this was at once repaired. The patient was out of bed in three weeks. Complete recovery.

Case XI.—Mrs. B., aged nineteen years, entered the hospital March 11, 1899. Married four years; no children and no miscarriages. On December 30, 1898, the Alexander operation was performed. Complains of constant pain in the right ovarian region.

Diagnosis.—Diseased left ovary and tube.

Operation, March 13, 1899, by Dr. Broun, assistant surgeon. Posterior vaginal section, with removal of left ovary and tube. Angiotribe used. Recovery.

Case XII.—Mrs. B., aged forty-three years, admitted to the hospital March 9, 1899. Married twenty-five years; five children and thirteen miscarriages. Nine years ago had an abscess of the right ovary removed. July, 1898, menstruation became profuse. Since November flow has been continuous.

Diagnosis.—Cyst of left broad ligament. Fibroid or carcinoma of the uterus.

Operation, March 16, 1899. Celiotomy, followed by removal of the uterus and left ovarian cyst by Dr. Broun. Angiotribe used. Adhesions were numerous and dense. Duration of operation, three hours. Recovery

Case XIII.—Mrs. H., aged fifty-two years, entered the hospital February 24, 1899. Married twenty-three years; four miscarriages. Her father died of Bright's disease. After May, 1898, no flow for six months; then she flowed for

six days profusely. Several hemorrhages since then. Nausea and vomiting and dizziness. Lost thirty-eight pounds since November, 1898.

Diagnosis.—Fibroid of left horn of the uterus.

Operation, March 20, 1899. Vaginal hysterectomy, with removal of adnexum of the right side. Angiotribe used. Recovery.

CASE XIV.—Mrs. A., aged twenty seven years, admitted to the hospital March 8, 1899. No children; no miscarriages. Menstruation irregular. The last continued three weeks.

Symptoms.—Pain in both ovarian regions.

Diagnosis.—Tubo-ovarian disease of both sides.

Operation, March 20, 1899. Vaginal hysterectomy, with removal of adnexa. Uterus hemisected. A great deal of pus escaped through the vaginal opening from rupture of tubo-ovarian abscess on the right side. Angiotribe applied to the lower or uterine segments of the broad ligament and the electric clamp to the upper. Peroxid of hydrogen, full strength, used, followed by normal salt solution for irrigation. Duration of operation, one hour and a quarter. Recovery.

CASE XV.—Mrs. R., aged thirty-one years, admitted to the hospital March 23, 1899. Married one year; no children; one miscarriage on July 9, 1898. Has had pains for many years. Has suffered for a number of years continously from menorrhagia.

Diagnosis.—Fibroma uteri.

Operation, March 27, 1899. Celiotomy. Supravaginal hysterectomy, with removal of adnexa. Angiotribe used. Ovarian stumps cauterized with electric knife. Peritoneum was stitched over the cervical stump with catgut. Time, one hour and a half. Recovery.

CASE XVI.—Mrs. N., aged thirty-one years, admitted March 15, 1899. Married ten years; two children; no miscarriages. Complains of great pain in the back and left ovarian region.

Diagnosis.—Diseased left ovary.

Operation, March 27, 1899. Posterior vaginal section, followed by removal of left ovary and tube with angiotribe. Bleeding from posterior vaginal wall, requiring suturing with catgut. Posterior opening closed with two layers of sutures. Time, one hour. Recovery.

CASE XVII.—Miss D., aged forty five years, entered the hospital March 28, 1899. No children; menstruation began to be irregular ten years ago. Has had several hemorrhages during the last two years.

Diagnosis.—Fibroid of uterus.

Operation, April 3, 1899. Vaginal hysterectomy. Angiotribe used. Tubes and ovaries were not removed. Perineum was lacerated in delivery of the fibroid, but immediately repaired. Time, one hour and a half. Recovery.

CASE XVIII.—Miss S., aged twenty one years, admitted March 27, 1899. No children. Has been flowing every two weeks for the past year. Complains of pain in the right ovarian region.

Diagnosis.—Ovarian tumor of the right side.

Operation, April 3, 1899. Celiotomy. Removal of dermoid cyst of right ovary and tube. Time, forty-five minutes. This cyst was removed through a small abdominal incision by turning the patient upon the side, drawing the tumor by large hooks close to the abdominal incision, opening the tumor with a scalpel, and extracting all the contents of the tumor without allowing a drop to enter the abdominal cavity. The abdominal cavity was filled with normal salt solution. Recovery.

CASE XIX.—Miss H., aged twenty-one years, admitted to the hospital March 29, 1899. Pain in both sides of the abdomen; severe on the left. Enlargement of the abdomen noticed first in September last. Flowing every two weeks since January.

Diagnosis.—Multilocular ovarian cyst of right side.

Operation, April 3, 1899. Cyst removed with angiotribe. The cyst was opened with patient lying upon the side. Pedicle was twisted before application of angiotribe, to make it less bulky. Time, one hour and a half. Recovery.

CASE XX.—Mrs. M., aged twenty-four years, admitted April 3, 1899. Married thirteen months; no children; one miscarriage. Irregular menstruation since marriage. No pain.

Diagnosis.—Ovarian tumor.

Operation, April 10, 1899. Celiotomy. Removal of broad ligament cyst from each side with ovaries and tubes. Both cysts were enucleated and the angiotribe applied to both broad ligaments. Recovery.

CASE XXI.—Mrs. D., aged fifty-four years, entered the hospital April 10, 1899. Widow twenty-seven years; two children, twenty five and twenty-seven years of age; no miscarriage. Fifteen years ago noticed a "lump" in the left side. Had no pain but pressure on bladder and rectum. Menstruation every three weeks, and scanty.

Diagnosis.—Fibroma uteri.

Operation, April 13, 1899. Celiotomy. Supravaginal hysterectomy, with removal of adnexa. Angiotribe used. Several bleeding points about the cervix were secured with catgut. Bladder sewed over the stump of the cervix with catgut. Recovery.

CASE XXII.—Miss R., aged forty-four year, admitted April 11, 1899. No children. Menstruation has been regular. Has had constant pain in the right side. Says a mass was discovered in the right side, low down, eighteen years previously, the size of a hen's egg.

Diagnosis.—Uterine fibroid.

Operation, April 17, 1899. Celiotomy. Supravaginal hysterectomy, with removal of adnexa. Dermoid cyst of right side. Later, sewed over the stump of the cervix. Angiotribe used. One or two oozing points were tied with fine catgut. Time, one hour and a half. Recovery.

CASE XXIII.—Mrs. McA., aged thirty years, entered the hospital April 4, 1899. Married ten years; no children; no miscarriages. Menstruation irregular since December, 1898, flowing every two

or three weeks. Constant pain in back. Mucopurulent discharge.

Diagnosis.—Retrodisplaced, adherent uterus, with diseased adnexa.

Operation, April 24, 1899. Celiotomy. Vaginal hysterectomy, with removal of adnexa. Angiotribe used. Time, forty minutes. Recovery.

Case XXIV.—Mrs. F., aged forty years, admitted April 4, 1898. Married ten years; two children; no miscarriages. Pain in the pelvis and back. Menstruation regular.

Diagnosis.—Double pyosalpinx, with septic uterus.

Operation, April 24, 1899. Vaginal hysterectomy, with removal of adnexa by angiotribe. Few small, oozing points tied with fine catgut. Time, one hour. Recovery.

Case XXV.—Mrs. W., aged thirty-seven years, admitted to the hospital April 26, 1899. Married seventeen years; no children; no miscarriages. Mass on left side first noticed six years ago. Complains of pain in the left side. Mucopurulent discharge after menstruation. Menstruation regular.

Diagnosis.—Fibroma uteri.

Operation, May 1, 1899. Celiotomy. Hysterectomy, with removal of adnexa. Angiotribe used. Bladder sewed over stump with catgut. Recovery.

Case XXVI.—Miss K., aged fifty years, admitted April 25, 1899. No children.

Symptoms.—Had been flowing profusely for five years.

Diagnosis.—Multiple uterine fibroids.

Operation, May 15, 1899. Celiotomy. Hysterectomy, with removal of adnexa. Dermoid cyst of right ovary. Angiotribe used. Recovery.

It is not strange, when we consider the really startling character of this innovation upon what may be called "well-established principles of surgery," that there should be aggressive opposition to it and a hesitancy to make use of it by some of the very best men. In reviewing the arguments pro and con it will be well to take up first the objections to the instrument itself and the method, and afterward the advantages in its favor.

The Objections.—What I have to say here is practically in answer to questions that have been constantly propounded to me at my clinic at the Woman's Hospital.

Objection is brought to the weight and apparent clumsiness of the angiotribe. My experience has taught me that arguments on this score have no force. It requires but a short experience to convince one that the instrument can be used with accuracy and dexterity.

It has been objected to theoretically, by those who have not used it, that it is inapplicable in cases of small vaginæ. In several of my cases of vaginal hysterectomy the vagina was very small, and I feel that I can state with positiveness that it would be difficult to find a case in which the operation of vaginal hysterectomy was indicated in which the instrument could not be used. In several of the cases reported here the perineum was torn but was immediately repaired and healed.

On the other hand, I can imagine a case of uterine fibroid in which it would be next to impossible to use the instrument after abdominal section. But it must be remembered that universal application is not claimed for it, and it should not, then, for that reason be condemned *in toto*. To my mind it is applicable to the large majority of cases.

Advantages of the Angiotribe.—In order to bring out clearly the salient points of advantage over other methods, it is only necessary to place them alongside of each other in comparison.

Let us begin our comparison with the ligature, of whatever material. I am, of course, arguing on the basis of equal familiarity with all methods. In vaginal hysterectomy the angiotribe is applied with great ease, while there is more or less difficulty with the ligature, and especially in cases in which the vagina is small. The angiotribe leaves a small, flat, ribbon like stump, which in a few days sloughs away, with very little discharge and odor. The stump left by the ligature is necessarily quite large and often requires weeks to slough away, often giving rise to a secondary sepsis by blocking the way for drainage. The objection to the catgut ligature is, of course, not as great as that to silk. The former will dissolve and come away, while the latter often has to be cut away after weeks. I am happy to believe that there are but few surgeons who still use the silk ligature, either in vaginal or abdominal work. It is best relegated to oblivion.

In comparison with the clamp, left *in situ* for from thirty-six to forty-eight hours, the angiotribe stands out preeminent. With several clamps on the uterine and ovarian stumps, pressing and dragging upon the intrapelvic nerves and projecting from the vagina, to be pressed against and jarred, the torture is extreme. One or two clamps on ovarian stumps do not cause excessive pain, and can be endured. Beyond this the stump left from the pressure of the ordinary compression forceps is larger, and takes a longer time to slough away.

In comparison with the electric clamp I can see no advantage in favor of the angiotribe save that of less expense and less difficulty in application. The results from each are about the same. After the use of each there is comparatively no pain, little sloughing, and the convalescence is very rapid. Before the end of the third week the vaginal vault is, as a usual thing, entirely closed.

Though I consider the angiotribe a step in advance

of the electric clamp, I have come to the conclusion that it is better and safer to apply the latter to the upper or ovarian portion of the broad ligament when there are pus-tubes. It so thoroughly shuts up the lymphatics and renders the stump so aseptic that there is no danger of septic absorption or reinfection. I have, however, used the angiotribe frequently in just such cases, and with success, as appears in my report of cases. I merely mean that I deem the electric clamp safer as regards a secondary infection. This instrument, as well as the other high compression forceps of Doyen and Thumin, were designed particularly and chiefly for vaginal work, and have been but little used for hemostasis after celiotomy on the other side of the ocean. I have found it just as serviceable and just as satisfactory in my abdominal work, and am making constant use of it. Here it compares as favorably with all other methods as it does in operations through the vagina.

Many who look unfavorably upon this method for abdominal work have supposed that the tissues would be so thoroughly crushed that necrosis and sloughing would necessarily be the result. In fact it is, I repeat, not a crushing, but a compression. All these tissues are revitalized as after the use of the electric clamp. Thumin has taken a specimen of the compressed tissue, and, after hardening it in alcohol, examined it under the microscope. He found the tissues not crushed, their integrity not destroyed, but merely compressed to a paper-like mass (see *Centralblatt für Gynäkologie*, February 4, 1899).

Precautions.—In the course of my experience with the instrument and study of its effects and results there are many points that I have noticed that appear to be worthy of remembrance, and they are answers to questions that any one would naturally ask in watching the use of the instrument.

It is found to be most important to manipulate the stumps just as little as possible after removal of the angiotribe, for fear of disturbing the clots that are forming closer and closer attachments in the blood-vessels.

It is advised to apply the compression at right angles to the course of the vessels. The clots form more securely if this is done.

The instrument should not be applied too near the outer extremity of the broad ligaments, where the pressure upon the arteries is the greatest. It is better to apply the instrument with the patient in the horizontal position, as when the table is moved suddenly from the Trendelenburg to the horizontal, an immense pressure is brought to bear upon the clots in the severed arteries in the stumps, and there is thereby greater likelihood of hemorrhage. I observed this after using the Thumin instrument in one case, and had to resort to catgut ligatures. If in any case the Trendelenburg position has to be maintained to facilitate the application of the instrument, the resumption of the horizontal position should be only gradual, that there may be no sudden increase of pressure.

It is important that the instrument should be carefully and accurately made. If the details I have mentioned above are not carefully carried out in its manufacture failure with it is likely to occur.

I believe I am responsible to some degree for the failure of one of my confrères at the Woman's Hospital, in which the abdomen had to be opened for hemorrhage. Instead of the French instrument, he used the first copy made by Stohlmann, Ptarre & Co., and which I condemned immediately thereafter for its imperfect construction. It was clearly the cause of his failure.

I have made use of Thumin's instrument in a few cases only, and am conscious that my experience with it is not adequate enough to decide upon its merits. I feel quite positive, however, that it does not afford as much pressure as the angiotribe of Tuffier; but I am not persuaded that a pressure of three thousand pounds, which Tuffier claims for his instrument, is really necessary. I have seen good and successful work done by an instrument invented by my associate, Dr. J. D. Bissell, which I am sure produces far less pressure. I have been in the habit for many years of cauterizing the stump of the ovarian section of the broad ligament, both as an antiseptic measure and to prevent subsequent adhesions. I still continue to apply it after the use of the angiotribe, for the same purposes and not as a hemostatic precaution, though it may add something to the opposing strength of the clots in the vessels.

There is one point worthy of careful attention: I have seen no case of crural phlebitis follow the use of the angiotribe. I have been led to attribute this calamity to catgut in some of my cases. For this reason I have abandoned the use of the larger varieties, as we can never be sure that the sterilization has reached their center, and now make use of the very small varieties sterilized by koumol. They are usually very strong, bearing a great deal of tension.

There appears to be no danger of disturbing the clots in the arteries by the ordinary movements necessary in transporting the patient from the operating-table to her bed; and even excessive and prolonged vomiting seems to have no deleterious effect.

There is a marked contrast between the patients operated upon in this way and those upon whom the clamp has been used in the first twenty-four hours.

The almost total absence of pain and the absence of almost every indication that a severe operation has been performed, is the rule after the use of the angiotribe.

Conclusion.—Like anything radically new and startling as is this method, it is natural, as I have said, that it should meet a great deal of defiant antagonism and opposition. There are now, however, on record enough successful cases, both here and abroad, to answer triumphantly all adverse criticism. Landau of Berlin reports more than seventy cases; Thumin, his assistant, nearly as many, both from the use of the Thumin instrument. Tuffier of Paris reported twenty-seven, but this is but a small proportion of his total number up to the present date. There are others also in Paris who are using the angiotribe successfully.

In this country the method is now being extensively tried and good results reported. In fact, the favorable impression already made is spreading everywhere. It is difficult even to supply the instruments fast enough. I believe it is a method that will abide for all time, as it is based on solid and scientific principles.

THERAPEUTIC NOTES.

The Use of Nitrate of Silver in Eczema.—Jugeat (*Gaz. Heb. de Med. et de Chir.*, July 30, 1899), who has made an especial study of the use of nitrate of silver in the treatment of different forms of eczema, finds that it is indicated in all weeping eczemas whether subacute or chronic, and especially in those which have an external origin. It is particularly useful in eczema of the hands It fails in acute eczema especially if complicated by secondary infection, in squamous eczema, and in eczema of the scalp. He does not recommend its use in children. It works well in producing an inflammatory reaction in torpid lesions but its chief value is in the treatment of weeping eczema. In this stage, thanks to its astringent action, it causes contraction of the vessels, tones up the skin, dries the tissues, and so hastens the restoration to the normal condition. When the origin of the eczema is evidently only internal, the effects of the nitrate of silver are unreliable, so that it is necessary to institute at the same time an appropriate internal treatment. If secondary infections are present the treatment should be at first directed to their relief and afterward the nitrate of silver may be applied. Crusts should be removed so that the remedy may act directly upon the tissues. Solutions of different strengths are used according to circumstances, varying from 1 per cent. to 20 per cent. In order to prepare the surface for the nitrate of silver, it is well to apply compresses wet with sterilized water and covered with rubber tissue for twenty-four or forty-eight hours. These should be renewed morning and night during this time. Crusts may be rubbed with olive oil and removed at once. Bits of absorbent cotton, dipped in the nitrate-of-silver solution and held in a pair of forceps, are used to make the cauterizations. If pain is likely to be great or the patient is timid it is well to make a previous application of cocain, It is possible to hasten reduction of the silver, by rolling a pencil of pure zinc over the surface. Immediately afterward the zinc should be cleaned with sand-paper in order to preserve it. The zinc accentuates the action of the nitrate of silver. It is especially useful in ulcers, mucous plaques, and flat condylomata. After a few moments compresses wet with sterilized water should be applied and covered with rubber tissue. This is necessary to prevent the formation of crusts. The moist dressing should be renewed daily while the applications of nitrate are to be made every second day or, in some cases, every third day, although forty-eight hours is generally the best interval. On alternate days, instead of a reapplication of the moist dressing, a salve consisting of equal parts of simple lead plaster and vaselin may be used. The nitrate treatment is to be continued until all signs of inflammation disappear, after which an ointment of zinc oxid is indicated. If at any time the cauterizing effect appears inefficient, the strength of the solution should be progressively increased. It requires considerable judgment to know when to discontinue the application of the nitrate. As soon as the new epidermis appears, the wet dressings should be given up and the ointment of oxid of zinc should be applied unless one prefers to make use of the following formula:

℞	Zinci oxidi Amyli Vaselini	aa		ʒ iv ʒ j.

Bathing is bad and the use of soap should be absolutely forbidden. The skin is sufficiently cleansed by the moist compresses and at the time the dressings are changed.

Removal of Tapeworm by Injection of Morphin Directly into the Parasite.—Kime (*Medicine*, September, 1899) says that failure to secure the head of a tapeworm is often due to the fact that the parasite is carried into the lower bowel and has time to re-attach itself before its body is expelled. Beyond the sacrifice of a few feet of its lower end it is as well off as before. His practice therefore is to ligate the protruding part of the worm about three inches from the anus of the patient, and then to inject half a grain of morphin directly into the substance of the worm. After a short time a large injection of water is given the patient and the upper portion of the worm will pass out entirely motionless and apparently dead. Most tapeworms have a pair of longitudinal vessels extending from one extremity to the other, so that a substance injected into any segment will reach every portion of the parasite. Kime says that an elaborate preparatory treatment of the patient is quite unnecessary. His patients do not eat breakfast and about nine o'clock receive a dose of infusion of pomegranate or, what is far better, of pelleterin tannate with one or two drops of croton oil. The patient should remain in bed under the personal observation of the physician for two or three hours until movements of the bowels occur. If the worm passes, well and good. If only a part protrudes, morphin should be injected into the worm.

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THE TREATMENT OF TYPHOID FEVER.

The recent discussion on typhoid fever before the New York State Medical Association, of which we publish certain of the papers this week, and others in abstract, while it does not develop anything startingly new, serves to render more definite our present knowledge of what has been well called "the great endemic disease of the present epoch of our civilization." Dr. Osler's paper drives home two very practical and valuable lessons, to the demonstration of which so much of his time in recent years has been devoted. His insistence on the fact that typhoid without abdominal symptoms is much more common than is thought, is at length having its influence in a more careful attention to diagnosis. His doctrine of the non-occurrence of typhoid fever and malaria simultaneously in the same patient, and its corollary that continuous fever, especially at the North, is practically always typhoid, are gradually being recognized as the most distinct advance in epidemiology in our day.

The treatment of typhoid is becoming ever more and more hopeful. Hospital death-rates beyond ten per cent. are now very unusual. Specific treatment of the disease is in no wise accountable for this. Much has been said of the influence of intestinal antiseptics, so-called, in aborting the disease during the first ten days, but at this time, as is well known, the typhoid bacilli that are doing their fatal work, are not in the intestinal lumen, but in the lymph passages of the intestinal walls, and antiseptics within the gut absolutely fail to reach them. The lessened death-rate has come from symptomatic treatment, which is steadily being brought into practical shape by contributions of the most varied kind from sources surgical and medical.

At present about one-third of the deaths from typhoid fever are due to intestinal perforation. One-fourth of these at least, even under present conditions, can be saved by surgical intervention. The statistics of post-perforative operation are constantly improving. It is probable that within a year or two thirty-three per cent. or more of these cases will be saved. The possibility, suggested by one authority on the subject, of recognizing with a certain degree of assurance a preperforative stage opens up a vista of still more notable improvement in typhoid mortality. About one-fifth of the present deaths from typhoid fever is the result of hemorrhage. Undoubtedly here, too, surgery will come in effectually to aid medical treatment, which is practically helpless in severe cases.

The remainder of the deaths from typhoid occur from complications and exhaustion. Many of the complications are undoubtedly due to the long febrile condition of the patient and to his insufficient nutrition. Of special interest, because it seems to promise a distinct reduction in the mortality from this cause, is Dr. Shattuck's plea for a more liberal diet than has been given heretofore. Dr. Shattuck allows his patients in the wards of the Massachusetts General Hospital what is called the soft-food diet. It includes soft-boiled or raw eggs, finely minced meat, the soft parts of raw oysters, soft puddings, soft toast without crust, wine jelly, bread without crust and milk, or crackers and milk. With this diet he has found during five years of experience no special tendency to any of the complications that might supposedly be looked for from a mixed non-liquid diet. On the contrary, the general condition of the patients has been better, complications

and relapses have been diminished, and the death-rate is less. These conclusions need confirmation from other observers, but the outlook for a distinct advance along this line is most promising.

What is needed while we wait for a specific biologic remedy for typhoid, which may not come, is more accurate diagnosis and more acute continuous observation that will anticipate the occurrence of complications. The Widal test, positive, often, only after the fever has subsided in abortive cases, will restrict still more than it has done in recent years the number of cases of so-called continuous fever that are at present suspiciously indefinite. Proper treatment and care here will lessen the number of deaths from complications, for perforation and fatal hemorrhage are not unknown in these short cases even after all symptoms have disappeared. Despite all we have thought to have accomplished in recent years, however, in reducing the mortality from typhoid fever, the statistics of a large institution like the Massachusetts General Hospital, even when all allowances are made, show no improvement in this respect during the last decade of the present half-century over that of its first decade.

CAN WHITE MEN LIVE IN THE TROPICS?

A writer in the *British Medical Journal* is much distressed because Benjamin Kidd, the author of "Social Evolution," has recently published a series of articles attempting to show that it is impossible for white men to become acclimatized in the tropics. So sure is Kidd of his position in the matter that he predicts that "in the end there can hardly be room for any important difference of opinion." He also speaks of the innate unnaturalness of every attempt to reverse by any effort within human range the long slow process of evolution which has produced such a profound dividing line between the inhabitants of the tropics and those of the temperate regions." This is decidedly dogmatic and, moreover, his pessimistic opinions are quite at variance with evidence brought before the Royal Geographical Society last April by Dr. Sambon to show that the causes of disease, deterioration, and deaths in the tropics are due to pathogenic germs, which have their limited and peculiar geographical areas, and differ greatly in the various tropical regions. If heat were the difficulty in the way, of course acclimatization would be altogether hopeless. "There appear to be good reasons, however, to believe that the real enemy is the microbe; and, if so, we may hope to fight against it in the tropics as successfully as has already been done in the temperate zones by sanitation and the gradual acquisition of immunity. This doctrine is strongly supported by some of the highest authorities in tropical pathology."

Dr. Manson, who has written a book upon this subject, and Dr. Rho, director of the Medical Department of the Italian Navy, are also thorough believers in the possibility of tropical acclimatization. "The death-rate of European troops in the tropics, which used to be from 100 to 129 per 1000, is now as low as 12 per 1000 in India. In Trinidad and Barbadoes the sickness and mortality among European soldiers are actually less than at home. The Boers are the finest men in South Africa. The Portuguese under unfavorable social conditions have been totally absorbed in India, but in Guiana and Brazil they have thriven remarkably well. Spaniards and Italians have become completely acclimatized in the tropical parts of both North and South America. The death-rate of Spaniards at Cuba is less than in Spain, and their birth-rate is greater." Unfortunately, the question has heretofore been discussed mostly by geographers, statesmen and journalists. Now that the attention of medical men is turned to it there is every reason to believe that the conditions for successful life in hot climates will become more thoroughly understood. It is to the microbe of the tropics rather than to the heat that attention should be directed. The different experiences of the men in ships and the men on land at Santiago, proved this beyond question. We have annexed leprosy in Hawaii, yellow fever in Cuba. If we expect to do justice by the tropical islands which have so suddenly come into our possession we must learn to live on them. This is the immediate problem of the medical department of the government.

ECHOES AND NEWS.

Rabies Subsiding about Buffalo.—State Agent M. Quigley, of Buffalo, stated on November 1st, that the cases of rabies in Erie and Niagara counties are being steadily stamped out. He accords considerable praise to the

police of the city of Buffalo for their effective work in capturing and muzzling rabetic dogs.

The Loomis Sanitarium Fire.—Although the administration building of the Loomis Sanitarium was totally destroyed by fire on October 14th, the work of the Institution has gone on uninterruptedly, the Casino Building having been temporarily adapted to the purposes of administration. It is expected that a new administration building will be completed within a few months. None of the patients' cottages were at all injured by the fire.

Board of Managers Defied.—On October 31st the Board of Managers of the New Jersey Custodial Asylum passed a resolution requesting the resignation of Dr. M. Alice Brownell, the asylum's resident physician. It was declared that there was friction between the Superintendent, C. W. Winspear, and Dr. Brownell. The doctor, who has held her present position for eight years, declares she will not resign until forced to do so by a higher authority than the Board of Managers.

The Rules and Regulations of the Thirteenth International Congress of Medicine to be held in Paris, 2-9 August, 1900.—All doctors of medicine may become members of this Congress by making the proper application and paying Five Dollars. The Secretary-General in Paris has instructed the American National Committee to receive the applications of American physicians and to return a receipt for the amounts sent. These applications and the money are then to be forwarded to Paris, and in due time cards of admission to the Congress will be distributed to all subscribers. Members desiring to present papers, will forward them to the Secretary of the Section to which they belong, for each Sectional Committee reserves the right of drawing up its own working program.

The Sanitary Condition of Puerto Rico.—The Board of Health of Puerto Rico notified the Secretary of the Treasury, under date of October 23d, that there was at that time not a single case of smallpox on the island. Nine months ago a serious epidemic was threatened and the disease prevailed over the whole island. Since then 800,000 vaccinations have been performed. It is possible to stamp out smallpox in Spanish-American countries. There has not been a case of yellow fever all summer. No serious diseases have followed the hurricane of August 8th. The process of vaccinating practically the entire population of Puerto Rico is graphically described in a communication we have just received from George G. Groff, M.D., of Puerto Rico. It will appear shortly in our columns.

Dr. Edward F. Brush of Mount Vernon is known generally to the profession as the quiet and unassuming producer of pure milk for babies and invalids, and no one except perhaps his most intimate friends suspected him of delighting in chasing the deer or facing the wild beasts of the forest. Rumor has it, however, that he has just returned from a hunting expedition in Northern Canada. At the head of the Ottawa Lake the doctor shot an immense moose, which stood seven feet two inches in height. He weighed 1500 pounds, and was one of the largest animals of his kind on the continent. The head is an unusually fine one, the antlers measuring fifty-eight inches from tip to tip. Dr. Brush has decided to present the head, when mounted, to the Academy of Medicine as a decoration for the banquet hall.

Death of Dr. Woodbridge.—Dr. Luther Dana Woodbridge, professor of anatomy and physiology since 1884 in Williams College, died suddenly on November 3d, at his home in Williamstown. He was but forty-nine years old. Graduated from Williams College in 1872, he became an instructor in Robert College at Constantinople for a year, after which he returned to Williams College to take the position of instructor of gymnastics. Shortly afterward he went to the New York College of Physicians and Surgeons, and after his graduation and an interneship in Roosevelt Hospital he studied abroad. Besides his work at Williams College he lectured in the Boston College of Physicians and Surgeons on "The Nervous System and Its Diseases." He was widely known in Berkshire County for his public spirit and many deeds of kindness and charity.

Johns Hopkins' Exhibit.—The exhibit of the Johns Hopkins University, including that of the Medical School, for the Paris Exhibition, is being prepared under the direction of Mr. Nicholas Murray, librarian of the university. This exhibit will form a part of the educational exhibit of the United States. The university has been asked to send articles relating to its scientific publications; to its work in the physical laboratory as illustrated by the spectrum maps, and the celebrated concave gratings of Professor Rowland; to work in geology as shown by the surveys; and to work in the biological sciences, especially in anatomy, physiology, and pathology. In this last division will be included the Medical School's exhibit. It will consist of plates illustrating the work done in the laboratory courses and of publications reporting the school's original investigations. The *Johns Hopkins Hospital Reports*, now in the eighth volume, the *Hospital Bulletin* now in the tenth volume and the *Journal of Experimental Medicine*, edited by Dr. William H. Welch, will be exhibited.

The Dangers from Infectious Diseases in Public Libraries.—The danger of infectious diseases being acquired through the books of public libraries, especially circulating libraries, has been under consideration for a number of years. The recent report of the deaths from consumption of several clerks who had been engaged in sorting old files of books and MSS., is a practical demonstration that forces upon the guardians of public libraries grave responsibilities and additional duties. Experiments have been made looking to the discovery of the best method of disinfecting books; a method that would be efficient, and at the same time not injurious to the volumes subjected to the disinfectant. The MEDICAL NEWS August 8, 1886, published a series of experiments showing that formalin was the agent par excellence for use in this work. It neither discolors articles subjected to its action

nor does it render them more liable to the corrosive action of time. On the other hand, it renders articles subjected to treatment entirely clean. The time has come, therefore, for all public libraries to have attached to them a disinfecting plant where all books, pamphlets, magazines, or documents that have been taken from the library may be thoroughly disinfected before being returned to their shelves.

The Probable Discovery of the Active Principles of Diphtheria Antitoxin.—Dr. W. H. Park present for Mr. J. P. Atkinson, assistant chemist in the Bacteriological Laboratories, Department of Health, City of New York, a solution of five different globulin precipitates obtained from diphtheria antitoxic horse-serum by means of heat and saturation of a solution of globulin by means of sodium chlorid. The solution of antitoxic horse-serum is first saturated with magnesium sulphate and the globulin thus precipitated. This globulin contains all of the antitoxin. The globulin is then dissolved in water at the room temperature and saturated with sodium chlorid. A precipitate of globulin occurs. When the temperature is gradually raised to 72° C. four more precipitates of globulin occur. Each of the precipitates has antitoxic properties, and together they contain all the antitoxin. The interest in these experiments lies first, in the method of obtaining the five precipitates from the globulin solution by saturation with sodium chlorid and moderate increase of temperature; second, in bringing antitoxin and globulin so close together that it almost seems necessary to consider antitoxin a globulin, and third the opportunity to use these antitoxic precipitates separately in the treatment of diphtheria and thus, in all probability, do away with the deleterious results, such as rashes, which now occasionally follow its use.

The Yellow Fever Situation toward the end of last week and the beginning of this was not so favorable as before. New cases were occurring at Miami in Florida and the death-rate was above the average. From Key West authentic reports were very encouraging. Reports to Surgeon-General Wyman of the Marine Hospital Service indicate that the yellow-fever epidemic which has prevailed at Key West for the past six weeks has about run its course. Only one or two new cases a day are now reported, and the messages say that a good breeze has been blowing for the past two weeks, which, it is believed, has had a beneficial influence. The reports also are to the effect that the detention hospital at Dry Tortugas has been closed because of the absence of patients. From Havana the reports for October show an excellent state of affairs in the matter of yellow fever for this season of the year. The official report is very satisfactory. The climatic conditions that existed during the latter part of September having unexpectedly continued throughout October, Surgeon Major Davis hopes that the fear regarding yellow fever will not be realized. During October there were sixty-three cases under treatment belonging to that month, with twelve cases which held over from September. Of this total of seventy-five, twenty-six recovered, twenty-five died, and twenty-four are still in the hospital. Thirty-six of the patients were Spaniards, of whom fifteen died, and twenty were Americans, of whom eight died.

The Plague Situation is in many respects constantly growing worse and becoming more threatening for the West. Alexandria is free, Hong Kong and the China Coast are announced as practically rid of the disease, in India the conditions are all improved, the only sad feature being the report of more deaths of Europeans at Poona, where, however, the disease seems to be gradually disappearing. At Oporto the condition of things is becoming more and more alarming. It seems clearly settled now that the suspicious cases reported from Asuncion in Paraguay were genuine cases of plague. Since then, occasional cases have occurred, and the authorities are not very hopeful of getting rid of the disease soon. Last week suspicious cases occurred at Santos, the port of San Paulo, south of Rio Janeiro, on the Brazilian Coast. It was definitely announced at the beginning of this week that at least twelve of these were cases of true plague. Further cases, making the number to date about twenty, have developed. The disease is of a mild type and so far no deaths are reported. President McKinley has directed the detail of Passed-Assistant Surgeon James A. Nydegger and Assistant Surgeon John F. Anderson of the Marine Hospital Service to serve in the offices of the United States Consul at Cadiz and the United States Consul General at Barcelona, Spain, respectively. The officers will assist the Consuls who are now enforcing the quarantine regulations of the Treasury Department to be observed at foreign ports by vessels bound for the United States, and will sign the bills of health with the Consuls. From these two ports these officers will have surveillance over emigration from Spain and Portugal. Practically all the emigration from Portugal, where plague prevails in Oporto, comes through Spanish ports.

MEDICAL MATTERS IN NEW YORK.

SMOKE ORDINANCE AMENDED—YELLOW FEVER ON A TRANSPORT—DEATH OF DRS. DRURY AND PARDEE—SURGEON OF ST. MARY'S ACCUSED—ALIVE IN A MORGUE BOX—REPORT OF MONTEFIORE HOME.

ON November 1st the Board of Health amended Section 134 of the Sanitary Code so that it now provides that no owner, lessee, or tenant shall cause or allow the discharge or escape of any smoke, cinders, gas, or offensive odors. Before the section was amended it simply declared that the offense should not be committed, but did not fix the responsibility. The section was further amended by striking out the conditional clause, "unless by special permit of the Board of Health," after the clause prohibiting the use of furnaces that do not consume their own smoke and gases.

The transport "Kilpatrick" arrived on November 4th from Havana and Matanzas, having on board discharged and furloughed soldiers, "indigent Americans," and military prisoners to the number of eighty-five, all told. On October 31st, when one day out from Havana, George

W. Powell, a discharged soldier, fell ill of yellow fever. He died on November 1st, and was buried at sea. The transport was disinfected, and her passengers were held at Quarantine until November 6th.

Dr. Alfred T. Drury, one of Brooklyn's oldest physicians, died on November 1st. He was born in Hull, England, and was sixty-nine years old. In 1859 he came to this country, and was graduated from the Castletown (Vermont) Medical College four years after. He came immediately thereafter to Brooklyn, where he practised until his death. Dr. Charles I. Pardee died suddenly on November 3d, at his home, No. 6 East Forty-third street. Dr. Pardee's special work was in eye and ear diseases. He was Dean of the New York University Medical School for many years. He was a member of the Union League, the New York Yacht and the Lotus Clubs. He was vice-president of the latter for eight years between 1872 and 1888. The New England Society and the Loyal Legion also claimed him as a member.

Dr. John Griffin, Chairman of the Nautical School Committee of the Board of Education, has begun an investigation of the complaint made recently to the committee by Mr. John C. Cruger of Brooklyn concerning his son's treatment while a pupil in the schoolship "St. Mary's." According to their complaint, Dr. Smart, the ship's surgeon, neglected to give young Cruger proper treatment when he reported sick. Typhoid fever developed. It would seem Dr. Smart did not make an early diagnosis. This is unfortunate, but not extraordinary.

Life and death played a game of "freeze out" during the twenty-four hours ending at 7 P.M. on November 1st; death won. At 10 P.M., October 31st, Mrs. Galioto gave birth prematurely—at the seventh months—to twins. The midwife in attendance, Rosa Genovese, of 33 Stanton street pronounced them stillborn. The unhappy father, at 5 o'clock next morning, wrapped them up in paper and put them in a little box, which he nailed securely, and which he then took to the morgue. Keeper Fane received the box and deposited it in the morgue refrigerator which is set apart for the infant dead. At about nine o'clock Fane was writing and Morgue Policeman Kip was smoking before the fire, "taking it easy" in the graceful manner characteristic of "the finest." Near by slept the morgue cat. Nothing more than the scratching of Keeper Fane's pen disturbed this serene atmosphere. Presently there came a weird sound from down the hallway, in the direction of the rotunda, where, in drawer upon drawer the dead "have lain them down in their last sleep." It seemed like the mewing of a kitten. Keeper Fane dropped his pen and looked aghast. Policeman Kip instinctively grabbed his nightstick. The cat became suddenly afflicted with opisthotonos, her hairs bristled, and she glared toward the rotunda. With blanched faces Fane and Kip reached the refrigerator, whence the sound emanated. It came from the box left by Galioto. This was hastily broken open, and one of the twins was found kicking and crying with all the force in its little body. Bellevue was at once telephoned, and Dr. Stern came and took the infant to the hospital. Despite all efforts the inlant gave up the ghost for good and all at 7 P.M., November 1st. It had been for three hours in the refrigerator at a temperature of 25° F.

At the annual meeting of the Directors of the Montefiore Home on November 1st the annual report was presented as follows: The receipts were $77,086.30, and the expenses $34,872.22, leaving a balance of $42,214.08. During the year 577 patients received treatment, and only eight were "pay" patients. At the close of the fiscal year there were 281 inmates.

MEDICAL MATTERS IN PHILADELPHIA.

MR. FREDERICK E. IVES ON COLOR PHOTOGRAPHY—ANOTHER INSTANCE OF EDDYISM—UNUSUAL DEMANDS ON THE MEDICAL INSPECTORS OF THE HEALTH BUREAU—A RECEPTION TO DRS. FLEXNER AND CLARKE—DR. TURNBULL'S RESIGNATION FROM THE JEFFERSON HOSPITAL STAFF.

PHILADELPHIA, November 6, 1899.

At the last meeting of the College of Physicians of Philadelphia, held November 1st, Mr. Frederick E. Ives gave an interesting demonstration of his system of Color Photography, and of its application in the field of practical medicine. Mr. Ives first gave a brief explanation of the principles involved in the process, showing the wide range of tints which could be derived from the three single colors upon which his system was based, by simultaneously projecting upon a screen three photographs of the same object, side by side, one colored red, another green, and another blue, and then by gradually superimposing and blending these three colors, obtaining finally a picture of the object in its natural colors, against a perfectly white background. Mr. Ives also showed an instrument, known as the kroemskoep, devised for examining photographs of objects in their natural colors, as one would examine a picture through a stereoscope. The kroemskoep consisted of an enclosed box, containing three plates of red, blue, and green glass, respectively, and two colored glass reflectors, so arranged that, by the aid of reflected light and a pair of stereoscopic eye-pieces the three colors become blended before the eye of the observer at a point opposite the center of the object to be examined. Thus, one is enabled to view the object in its natural tints, standing out in bold relief against a colorless background. The possibilities of Mr. Ives' method of color photography for teaching purposes, especially in the fields of pathology and surgery, were emphasized by Dr. W. W. Keen, who dwelt upon the value of the invention in enabling the student to observe tumor sections, for instance, just as they appear in the true specimen. Such conditions as jaundice, and the various kinds of cutaneous eruptions of the exanthemata and of skin diseases were also capable of exact reproduction by this apparatus. Dr. Keen expressed the opinion that, in the future, hospitals would be equipped with apparatus for the photography of various lesions after this method.

Another instance of the fatal results of too much Eddyism is illustrated by the death, at the end of the present week, of a prominent and wealthy resident of Germantown, whose story of unbelief in physicians and trust in

Christian Science is the principal topic of current discussion in the public prints of this city. The deceased, a life-long trifler with his health, had, it is understood, been under the "treatment" of various exponents of the Christian Science cult, including, as a last resort, a visitation from that arch-priestess of the sect, Mrs. Mary Baker G. Eddy, herself, who was summoned post-haste from Boston, in lieu of the more rational procedure of consulting a specialist in tuberculosis, for phthisis was the sufferer's disease, and he was sorely affected. But in spite of Mrs. Eddy's "influence" with the Power above, and so forth, and in spite of her lesser disciples' prayers and "readings," the patient grew worse, grew moribund, and finally died. That the deceased experienced intermittent periods of blacksliding from the "faith" appears to be conclusive from the two facts that he had at various times during the past summer sought the advice of a physician of high standing in this city, and that he is reported to have repudiated his Bostonese advisers as visions of the hereafter began to become more vivid; but to no avail, for he died, attended by one of the cult, a resident of this city, although a physician was called in, at the last moment, too late to be of service.

In view of the unusual prevalence of diphtheria and scarlet fever in this city at the present time, the work of the City Medical Inspectors becomes a matter of prime importance to the health of the city, and of timely interest to the general public. Other cities, as a rule, appreciate the work of these sanitary officers, and are willing to provide means for the intelligent pursuance of their labors, but Philadelphia, thanks to the present Administration's parsimoniousness toward this needful and practical branch of the municipal sanitary service, has not only reduced the number of Inspectors from fifteen to eleven, but has had the audacity to redistrict the whole city into larger areas, so that their work is increased to a degree which renders its proper performance an absolute physical impossibility. While the Inspectors are, in all good faith attempting to live up to the rules of the Health Bureau by making daily visits of inspection to at least two public schools in their respective districts, the extraordinary demands made upon their time by imperative calls to the large number of contagious diseases now prevalent, relegates the duties of school-inspection, and of the medical examination of school children to a standpoint of secondary importance, so that these duties must needs be perfunctorily observed in many instances. Each inspector is supposed to cover a district containing from 75,000 to 150,000 inhabitants, according to the density of population, and the supervision of the sanitation of such a population, which, even in times of general good health, is not a matter of play, becomes, in the present state of the prevalence of contagious diseases an undertaking which is too great for any one man. But the authorities refuse to increase the force of Inspectors, or to aid them in any way, so that some of the work must be glossed over, and a great deal of it done hurriedly, with what outcome the onset of an epidemic may unfortunately determine.

The Medical Club of Philadelphia gave a reception and dinner on November 3d, at the Hotel Bellevue, to Dr. Simon Flexner and to Dr. John G. Clarke, the two new occupants of chairs in the Medical School of the University of Pennsylvania. A large number of prominent medical men were present, and speeches were made by the two principal guests of the evening, and by a number of others.

Dr. Laurence Turnbull, for many years otologist to the Jefferson Medical College Hospital, has tendered his resignation from the staff of that institution. Dr. Turnbull's widely-known success in his specialty was largely gained in the services of this hospital, in which he originally organized and perfected the department of otology, now in a flourishing condition thanks to his interest and personal labors.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

ANOTHER DEATH AT THE DOOR OF A MIDWIFE—POISONING AND DEATH AT ALDERSHOT—IN AID OF HOSPITALS—AN INGENIOUS APPLIANCE FOR THE TREATMENT OF TINEA—A NEEDLE FOUND EMBEDDED IN THE HEART MUSCLE.

London, October 29, 1899.

The failure of Parliament to pass at its last session some effective bill for regulating the practice of midwifery is becoming more obviously deplorable every day. It will be remembered that two bills were presented, one by the so-called Midwives Association, which really rendered these interesting survivals of barbarism an independent branch of the medical profession; the other drawn up by the Committee of the General Medical Council, which went perhaps a little too far in the opposite direction, by permitting them to practise only under the direct supervision of a qualified medical man. A death has just been reported from Walthamstow of a poor woman who had been attended in her confinement by a midwife and who died six or seven days later from well-marked septicemia. The case was a perfectly typical one both in its clinical history and its post-mortem appearances, and the midwife evidently realized her culpability as she failed to appear at the trial on the ground of "serious illness." It is to be hoped that vigorous action will be taken in the case by the law officers, and attention again called to the serious source of danger which these ignorant and uncleanly representatives of "Sairey Gamp" are to the community.

The result of the inquiry into the curious case of food-poisoning among the soldiers at Aldershot to which we alluded in a former letter has been an open verdict. The case proved to be one of the most puzzling ones which has come before the experts in many months. Twenty-six men, out of one battalion, were taken seriously ill with symptoms of gastric irritation, and of these five died. The clinical diagnosis of food-poisoning was made at once, and as usual on this side of the Atlantic, American canned goods were put down as the offending cause. Indeed the Quartermaster immediately forbade the selling of canned goods of any description or of prepared pastries in the regimental canteens on the strength of this

impression. It was found, however, that no canned goods had been consumed by the men attacked within forty-eight hours, and as soon as the experts were put on the case the strong similarity of the symptoms to those of poisoning by tyrotoxicon was noted at once. Cheese had been supplied to the men as a part of their haversack rations during the maneuvers in which they were engaged, and upon examination this was found to contain abundance of tyrotoxicon. It will be some satisfaction to our injured innocence to know that the cheese was not an American but a New Zealand product. This would look like a fairly clear case, but the missing link in the evidence was that no clear proof could be found of actual ingestion of the cheese by the diseased men, nor could any ingested portions of it be found in their stomachs, or a sufficient quantity of ptomain to permit of definite identification as tyrotoxicon. A curious piece of collateral evidence was furnished, however, by the discovery that a number of sheep, ranging over the ground of the maneuvers, had died with gastric symptoms and upon examining the stomachs of some of these a considerable amount of partially digested cheese was found in them. It would therefore at least be fairly suggestive to anybody but an official Board of Inquiry that the soldiers, disliking the taste of the cheese, after swallowing only a few bits of it, had thrown it away to be picked up by the unfortunate sheep, and that those men whose gustatory nerves were least sensitive had swallowed enough of it to cause fatal results. Unfortunately most of the men were dead before the cheese was suspected, so that no definite inquiries had been made in regard to that article of diet. The suspicious feature of the verdict is that the cheese had been supplied by the Government of New Zealand directly to the War Department, and the case was most carefully watched by two or more of their official and legal representatives, so that there might have been "reasons of state" for the inability to elicit from the soldiers who recovered the simple fact whether they had eaten any of the cheese or not. Further inquiry is urgently demanded by the public press.

A graceful form of memorial, which we are glad to see is becoming more and more common, has just been observed by General Sir Francis Grenfell, one of the conquerors of the Khalifa, in sending a donation of $2500 for current expenses to the Middlesex Hospital Cancer Wing, recently erected in memory of the late Lady Grenfell.

The committee of the Royal Ear Hospital is arranging for a subscription ball next month to raise funds for a new building, the site of which was purchased some months ago. The science of skillful and ingenious begging for the best of purposes is being carried to even a higher pitch in this country than in our own, and the first "coup" planned by every new hospital is to get itself under the patronage of some distinguished member of the nobility, or, if possible, of the royal family. This results in some rather curious collocations in the title of the institution, as in this instance, in which the first glance at the name might lead to the impression that the royal ear was either so extensive, or subject to such a multitude of diseases that an entire hospital was needed for its care.

A most ingenious little appliance for the treatment of obstinate cases of ringworm was displayed by Dr. Phineas Abraham in a clinical demonstration at the London Polyclinic last week. It was born of the recognition of the fact that in chronic cases of great persistence, such as we have all had painful experience of, the principal stronghold of the tinea is not in the skin of the scalp, but deep in the follicles of the hair, into which, of course, ordinary ointments rubbed or solutions painted upon the surface of the skin could hardly by any means be got to penetrate. Its principle was suggested to Dr. Abraham by the process by which blocks for wood paving are saturated with creosote *in vacuo*. These are placed in a retort from which the air is rapidly exhausted by an air-pump, and then creosote in the form of vapor is introduced, and as the result of the "vacuum" having penetrated some distance down the tubes and fibers of the wood the vapor is literally sucked or drawn completely through and through the mass. This process is imitated in a lesser degree upon the scalp by a small bell-jar with a rubber rim, which, after the scalp has been thoroughly cleansed with alcohol and ether, is pressed upon the area desired to be treated and the air within rapidly exhausted by a small syringe pump. When the tissues have been well sucked up into the cavity of the cup a cock in the bottom of a small tube of creosote is opened and the drug, in the form of vapor, pours into the vacuolized tissues. Dr. Abraham has found it of great practical value in sterilizing not merely the surface, but even the depths of the hair follicles, and by this means alone has succeeded in curing many obstinate cases which had defied all other methods of treatment.

A new genius has arisen in the realm of hospital reform, this time with a bold and radical proposition, that inasmuch as hospitals in the heart of a great city are at an immense expense in the matter of ground, taxes and maintenance, while the patients are at a corresponding disadvantage as to light, air, and quiet, that the great mass of the large city hospitals should be removed bodily out into the country, leaving only a small receiving department and staff for attending to acute emergency or accident cases. The proposition is a Utopian one, but would, we fear, be found almost disastrously impractical both from the point of view of the patient, in his removal from work and friends, and from the point of view of both the physician and the students in attendance at the centers. The suggestor has evidently little or no practical knowledge of the nature of the great bulk of cases which come into our metropolitan hospitals. Unquestionably the establishment of a country branch and convalescent home for each of the hospitals would be a very decided advantage, and we are glad to see that some hospitals are considering this proposition. Certainly every proposal of extending the building of an already established hospital, or of building a new one, ought to be most critically scrutinized from this point of view. Much regret has already been expressed over the action of the great Brompton Hospital for Consumption in building a large and beautifully fitted addition, nearly doubling its capacity, just across the street from its original building and in the heart of a

densely populated portion of the city, instead of spending the money for a sanatorium on some hillside in the country, where the open-air treatment could be carried out with advantage.

Hospital Saturday has again come and gone, and although it will be some weeks before the results are in, yet the preliminary returns are most encouraging. The policy of the abandonment of regular personal street collections has much to recommend it, but it is still on trial and the results will be watched with much interest from this point of view. The amount raised and distributed by this means last year was a little more than $85,000. This, though apparently a large sum, is relatively small for a great metropolis and actually inadequate, as the lowest estimate of the yearly deficit in the expense account of the eleven largest hospitals alone is $100,000.

A curious cause of death was brought before one of the London coroners this week. A lady described as a Polish countess died suddenly in Islington with symptoms pointing to some form of thoracic hemorrhage. Upon post-mortem examination the pericardium was found filled with bloody fluid and a large needle was discovered embedded in the wall of the right auricle and penetrating into its cavity. By the movement of the heart it had apparently produced some laceration of the wall, permitting escape of blood, besides setting up a violent pericarditis. No history could be obtained as to the possible cause of the presence of the needle in this situation. The coroner, however, was quite equal to the emergency, and summed it up with perfect gravity as one of those remarkable cases, so celebrated in myth and legend, in which a needle accidentally introduced into some part of the body had "worked its way" through the tissues until it had penetrated some vital organ or again appeared upon the surface. The case has a curious parallel, however, in the lower animals, as a quite frequent cause of fatal pericarditis and even laceration of the heart-wall in cattle is the penetration of the sac by pieces of wire, rusty nails or needles, from the great paunch, after having been swallowed with the food. Pericarditis in the ox is commoner than in any other species of domestic animals solely upon this account. The suspicion, therefore, would appear to be strong that the case was one of suicide by the method of swallowing a needle or needles, one of which had pierced the pericardium and produced this fatal result, or it is barely possible that the needle might have been introduced directly from the surface by a determined hand. A by no means uncommon form both of suicide and murder among the ingenious Chinese is to push a large needle into the viscera through the umbilicus.

The Government has another Boer question on its hands. The unterrified Board of Leicester Guardians, after awaiting the descent of the long-delayed mandamus thunderbolt for months, now that it has fallen absolutely refuse to comply with its provisions. There are, however, some signs that common sense and prudence are making themselves heard, even in their voluminous ears, by the fact that while at the former meeting the Board was almost unanimous in its determination to court martyrdom, on this occasion there was a long discussion. In the course of this one of the Board delivered himself of the sentiment that if they did not comply "their goal would be gaol," which, spelt after the antiquated English fashion, is rather a fine bit of alliterative antithesis. When the vote was taken it stood only twenty-five to eighteen, and had it not been for the fierce appeals of one female member of the Board the scale might have been turned in the other direction.

One of the London vestries has got itself into what we hope will prove a serious scrape. The wood-block system of pavement is becoming a prime favorite in London again on account of its noiselessness and freedom from being slippery. The objections to it as being an absorbent, moisture-holding, and a culture medium for germs it was supposed had been overcome by its saturation with creosote *in vacuo*. One vestry, however, of an economical turn of mind, thought that this last item was a fad and might just as well be omitted, but unfortunately for its peace of mind the street which it chose for this exhibition of parsimoniousness was the Mecca of consultants, Harley Street, known in popular language by the undeserved term, Valley of the Shadow of Death. The loudness of the outcry that has been raised may be better imagined than described, and we think that the Board will speedily be driven to recede from this parsimonious stand not only in the case of Harley Street but also in other neighborhoods less keenly alive to their sanitary interests.

Still more encouraging reports come in from the results of the malaria commission to Sierra Leone, the pools in one malaria-soaked district, Freetown, infested with anopheles being under one hundred in number and probably capable of permanent sterilization by the service of one man with a kerosene can.

SOCIETY PROCEEDINGS

NEW YORK STATE MEDICAL ASSSOCIATION.

Sixteenth Annual Meeting Held at the New York Academy of Medicine, New York City, October 24, 25 and 26, 1899.

SECOND DAY—OCTOBER 25TH.

AFTERNOON SESSION.

(Concluded from page 608.)

THE President, JOSEPH D. BRYANT, M.D., of New York in the Chair.

DR. HERMAN M. BIGGS of New York County read a paper, entitled

THE ADVANCE IN OUR KNOWLEDGE OF TYPHOID FEVER,

which appears in the present issue of the MEDICAL NEWS.

DR. W. H. PARK of New York City read a paper, entitled

BACTERIOLOGY OF TYPHOID FEVER,

which will also appear in a subsequent issue of the MEDICAL NEWS.

DR. WILLIAM OSLER of Baltimore followed with a paper, entitled

CLINICAL DIAGNOSIS OF TYPHOID FEVER.

There is no one symptom, nor two symptoms, nor three symptoms that are always present in typhoid fever. Any or all of the usual symptoms may be absent. We do not judge by a few positive signs. The diagnosis is a rational one, and must be often made on circumstantial evidence. Yet few diseases are so certain in their diagnosis as typhoid fever. These are practically the words with which Elisha Bartlett begins his chapter on the diagnosis of typhoid fever written in the year 1842. They are as true to-day as they were then, despite all the work that has been done on the subject since.

For instance, very often we meet with cases in which for five to eight days there is slight fever, and in which we sometimes can feel the edge of the spleen. If rose spots do not develop we are apt to call them simple continued fever. In a number of cases, however, after the cessation of the fever, patients have given the Widal reaction, showing that it was really typhoid fever. A recent epidemic in Switzerland was very interesting in this particular. Some thirty cases of frank typhoid fever were treated in the hospital. Twelve other patients, who had slight headache, moderate temperature, and general malaise were not put to bed because they were considered not to have the disease. The application of the Widal test after their convalescence showed that they had had typhoid fever. The Widal test will undoubtedly greatly restrict simple continuous fever as we know it now.

Too much insistence has been given to the abdominal symptoms of typhoid fever. It is very possible for the disease to occur absolutely without abdominal symptoms. Out of thirty-five cases that have been under his care during the last month only four patients have had distinct abdominal symptoms.

Besides the enteric type there are forms of the disease in which the cerebrospinal, the pulmonary and the renal symptoms are of most importance. Many cases of sporadic cerebrospinal meningitis are undoubtedly typhoid fever of the meninges. Very often the typhoid fever is concealed by the occurrence, in the midst of a more or less continuous fever, of a consolidation of one or more lobes of one or both lungs. Undoubtedly certain cases of so called acute nephritis are really renal typhoid. The disease may run on without other symptoms until the development of rose spots betrays the nature of the disease. There may be no fever at all, or it may begin very abruptly; there may be rose spots, intestinal symptoms may be entirely absent, and so there may be no diazo-reaction. The Widal test may be positive only very late in the disease, or may not occur until after the fever has ceased. There may be no leucocytosis.

Repeated chills usually means malaria. The differential diagnosis of malaria is not so difficult as has been thought. No continued fever diagnosed as malaria here in the North in former times was probably anything but typhoid. The country was shocked during the Spanish-American war by the discrepancy of reports and the disagreement of doctors with regard to the existence of typhoid or malaria in the camps. It was not the army surgeons who were to blame, nor the profession of the country, but the teachers at our medical schools who have not insisted enough on the distinction between these two diseases. Malaria is such an accommodating word. It covers such a multitude of diagnostic sins. It was at least as consoling in its way as the unctuous word Mesopotamia, to the old woman in the story. Above Mason's and Dixon's line an intermittent fever that does not yield to quinin is not malaria. Practically only tertian fever exists at the North, and this yields readily to quinin in thirty-six or forty-eight hours. At the South we have the estivo-autumnal type which gives rise to a remittent fever. The curve reaches a fastigium and then does not vary by a degree perhaps for days. The temperature chart is like a map of the Pennsylvania Railroad; that of ordinary malaria is more like the multi serrated line of the Baltimore and Ohio. The estivo-autumnal type may resist quinin for two or three, or even four or five days. The parasite of the disease too is harder to find so that there is more reason for mistake in diagnosis. Out of a thousand cases observed at Baltimore at Johns Hopkins in only one case did malaria and typhoid occur together. In general and obscure febrile cases it is better to suspect typhoid than malaria. Our position in the matter should not be the Anglo-Saxon one of thinking the case innocent of typhoid until proved, but rather the Gallic position of considering the case guilty of typhoid until it is demonstrated to be innocent. Two works should be on every physician's table—Keen's "Surgical" and Hare's "Medical Complications of Typhoid Fever."

DR. E. G. JANEWAY of New York then read a paper, entitled

SOME INTERESTING CASES ILLUSTRATIVE OF THE PECULIARITIES OF TYPHOID FEVER.

In three cases he has seen tetany as a complication of typhoid fever. The affection is rare in this country, or rather is rarely reported. It is probable, however, that it occurs more frequently than is thought and the muscular rigidity is considered a part of the irritable muscular condition of the disease. In one of these cases the involvement of the jaw made feeding difficult.

In a number of cases he has seen psychosis develop of so severe a type that the affection has been considered to be acute mania. Typhoid-fever patients have even been sent to the asylum as insane. A suicidal tendency is extremely common and should always be carefully guarded against. Typhoid-fever patients should never be left alone. In one case in charge of a doctor the patient asked him to leave the room for a few minutes in order to make urination easier. When the doctor returned after only a minute he found the patient attempting to cut his throat. In another case in charge of three nurses, the patient asked them to leave the room because their presence disturbed her. They did so and she leaped from a fourth-story window into the area. Sharp instruments, pistols, or dangerous drugs of any kind should not be left within reach of typhoid patients.

"Some unexpected eruptions occur in typhoid fever. I have seen herpes several times, though it is so infrequent that whenever I find it in a case of suspected typhoid I

carefully revise the diagnosis and usually find that it is some other affection with which we have to deal. With herpes present the diagnosis of typhoid is very improbable. Petechial eruptions that make one think of typhus fever occur occasionally. I have seen peculiar eruptions of this kind occur beneath cold-water coils that had been placed on the abdomen. The spiral blood extravasation had sometimes alarmed the patient and his friends considerably. Once I was almost tempted to diagnose typhoid in a case in which sapremia due to suppressed menstruation proved to be the real cause of the fever and increased pulse-rate.

"In general in office practice the rectal temperature should be taken more often than it is. Patients come in out of the air and the temperature of the mouth will often be normal at a time when the rectal temperature shows distinct fever. Many patients that we treat now in our office for febriculæ would be sent home to bed if we took rectal temperatures more frequently."

DR. WILLIAM H. THOMSON of New York City followed with a paper on

STATISTICS OF TYPHOID FEVER AT THE ROOSEVELT HOSPITAL FOR TEN YEARS.

He has had in his service during the last ten years 368 cases, in 275 males and 93 females. Of these 25 have died, a mortality of 6.8 per cent. Fifty-six per cent. of the deaths have occurred within a week after admission. Most of the patients were hopelessly moribund when they came into the hospital. Only 3 per cent. of the patients who remained in the hospital for more than a week died. "The routine treatment of the hospital in my service is to give calomel and jalap every third night until the middle of the second week, sometimes even well into the third week. As diet the patients take milk, mixed with equal parts of lime water. As all pastoral peoples that live much on milk have some way of curdling it in order to save the stomach the labor of coagulation I frequently make use of this expedient. When there is much tympanites I find turpentine the best remedy. As soon as the tongue begins to become dry I give 10 to 20 minims. Since 1874 cold baths have been used in my service at the hospital. I consider that they are useful not only for the fever, but also for the toxemia. In all cases where albuminuria exists I give large injections, 4 to 6 pints, of saline solution."

DR. REGINALD FITZ of Boston read a paper, entitled

TYPHOID FEVER IN THE MASSACHUSETTS GENERAL HOSPITAL DURING THE PAST FIFTY YEARS.

The death rate by decades in the Boston Hospital during the past fifty-years has been: From 1839 to 1849, eleven per cent.; from 1849 to 1859, sixteen per cent.; from 1859 to 1869, fifteen per cent.; from 1869 to 1879, 16.6 per cent.; from 1879 to 1889, 14.7 per cent.; from 1889 to 1899, 13.5 per. cent. The mortality from typhoid fever has not improved then to any very great extent in the fifty years. There has been a definitely lessened mortality since the institution of cold-water treatment; during the last five years liquid diet has not been absolutely adhered to in one of the departments of the hospital. Patients under Dr. Shattuck's care have been allowed to take soft, solid diet, including farinaceous puddings and the like. This has given excellent results, and especially has not increased the tendency to hemorrhage. As a matter of fact, mortality has been less in this diet than with an absolute milk diet. There have been no more complications, and not any more relapses than under the more severe system. It is evident that something can be allowed besides milk.

DR. A. A. SMITH of New York read a paper, entitled

SOME PHASES OF TYPHOID FEVER AS SEEN IN BELLEVUE HOSPITAL,

which will appear in a subsequent issue of the MEDICAL NEWS.

DR. ABRAHAM JACOBI of New York then read a paper, entitled

TYPHOID FEVER IN CHILDREN.

The severity of the illness in typhoid fever in children does not always correspond to the height of the fever. At times the disease runs an afebrile course. In cerebral cases this is especially true. Cases complicated by a great deal of toxemia are also likely to have low temperatures. In general, typhoid with low temperature in children has a bad prognosis. Ambulant cases are likely to occur in children rather frequently.

Otitis occurs rather commonly as a complication. It does not often cause perforation of the tympanum, however, for the Eustachian tube is a wide-open funnel in childhood, and may drain away the inflammatory secretion. There may be two daily curves of temperature in the disease in children, so that the temperature should be taken at least four times a day, or even oftener. Gurgling in the ileocecal region should not be considered as suspicious of typhoid in children, for this symptom occurs very frequently in many intestinal affections of childhood. Hemorrhage in children, too, depends on the character of the epidemic and on the season in which the disease occurs. Some years the speaker had seen no hemorrhages, while in others they occurred rather frequently.

As to the treatment, he insisted on absolutely liquid diet until apyrexia had lasted ten days. Patients should be given plenty of water by the mouth. If ten drops of dilute hydrochloric acid be put in water and then sweetened a very pleasant, cooling drink is obtained. This serves the useful purpose of washing out the intestinal tract, of diluting the toxins in the circulation, and of causing diuresis by a rise of blood-pressure. The lips and tongue should be kept clean. The nose should be sprayed out occasionally. The position of the patient should be changed frequently in bed so as to avoid hypostatic affections of the lungs and spinal cord. Calome should not be given after the first half of the second week. For offensive stools thymol or permanganate of potash, 1 to 4000, are useful remedies. Where stimulation is needed camphor in sweet almond oil 1 to 4 parts is very useful. For excitement chloral is a useful remedy. Where there is weak heart croton chloral should be substituted.

There is a prejudice against antipyretic drugs. It has been assumed that high temperature helps to kill bacteria and increases the amount of antitoxin formed by the system. This idea is no longer generally accepted and Flügge denies it entirely. Certainly patients are more comfortable when the temperature has been brought down. Not all antipyretics are advisable. Acetanilid, for instance, is a tissue poison. It causes the formation of methhemoglobin in the blood and so is dangerous. As the old Greek poet said, water is the best. Use it for its antipyretic effect, not for any presumed stimulating qualities. It need not be used cold, for water at 90° to 95° F. will bring down temperatures of 104° to 105° F. very readily. Bathing is contraindicated when there is a feeble heart or where there is pneumonia or peritonitis.

DR. DELANCY ROCHESTER of Erie County read a paper, entitled

THE LOCAL, NON-SURGICAL TREATMENT OF THE INTESTINAL TRACT IN TYPHOID FEVER.

Nihilistic therapeutics in typhoid fever have had their day. There are a good many drugs that produce good effects. Calomel, for instance, is undoubtedly useful. It is especially to be remembered, however, that a certain amount of the typhoid lesions occur in the large intestine and in the small intestine not very far from the ileocecal valve. The ulcers in the large intestines can be reached by high rectal injections. It has not yet been definitely decided whether we can force injections under gentle pressure beyond the ileocecal valve in all cases. In some cases we certainly can. In typhoid fever the large intestine always suffers from a catarrhal condition and this at least will be benefited by the rectal injection. This local treatment of typhoid fever should not be neglected.

DR. W. W. KEEN of Philadelphia followed with a paper, entitled

TREATMENT OF PERFORATION OF THE BOWEL IN TYPHOID FEVER.

Since Mikulicz in 1884 performed the first operation for perforation of the intestines from typhoid ulcer, up to the end of 1898, eighty-three cases were operated on, and nineteen per cent. of them were saved. During this last nine months sixty-seven additional cases have been operated on, and twenty-six per cent. of them have been saved. If doctors would but remember that the healing process during typhoid fever is quite as good as in health surgeons would get more chance to operate, be called sooner to the cases, and very soon the statistics would show at least one in three saved.

In what class of cases should we operate? In practically every case. The better the general condition the better the chance. One case was operated on three times and survived. Two cases have been operated on twice. One case was operated on successfully for post-operative obstruction. In cases under fifteen years of age, where operation has been done, fifty per cent. have recovered. From fifteen to twenty-five years of age is the most unfavorable period. Women have perforations less than half as often as men, and recover twice as often from operation, according to the statistics. The later in the disease that perforation occurs the better is the prognosis.

When should we operate? Not during the primary shock. This means usually not during the first twelve hours. I have seen fit to correct this original expression of opinion, and to say rather not during the first eight hours. There would seem to be two rules: First, operate as soon as possible; but, second, do not operate during profound shock. The improvement of the statistics in the future will depend not so much on any perfection of our technic, but on advance in diagnosis. The preperforative stage has been spoken of. If this can be recognized with any assurance then, perhaps, we can prevent perforation entirely. In any case a surgeon should be called in consultation as soon as any abdominal symptoms appear that point even to impending perforation. An exploratory incision may be made under cocain anesthesia with very little inconvenience to the patient. After this exploratory incision, bacteriologic specimens may be taken and examined to see if there is any peritonitis.

The Halsted mattress suture should be used rather than continuous suture. If the perforation is very extensive, a resection of the intestine may be done. Two recoveries have been reported after such an operation. If at any point there seems to be impending perforation the spot should be sutured. Such points should be looked for carefully, as a number of cases have terminated fatally after operation owing to the occurrence of a second perforation. The abdomen should be closed without drainage. Speed is an important factor in the success of the operation. There are cases in the literature of the subject now which show that the surgeon need never despair of any case, no matter how low the patient may seem in vitality, and no matter how many other complications have occurred before. Most unpromising cases have ended in recovery.

THIRD DAY—OCTOBER 26TH.

MORNING SESSION.

DR. E. D. FERGUSON of Troy offered a resolution to the effect that since the branch association cannot constitutionally elect the vice-presidents for the different districts, that they be asked to recommend some one each year to be chosen to that office by the Association.

DR. WICKES WASHBURN of New York offered a resolution that a committee be appointed to draw up a leaflet for popular instruction as to the treatment of consumptives at home.

DR. STEPHEN SMITH explained what was being done by a committee appointed to guide legislation as to the establishment of a national bureau of health. He explained what was proposed by the Spooner, McCaffrey, and the Hepburn bills, and asked that the Association adopt a resolution recommending to Congress the passage of the Spooner bill, which creates a special bureau of public health in the Department of the Treasury.

All of these resolutions were adopted by vote of the Association.

DR. HENRY O. MARCY of Boston then read a paper with the title

TWO CASES OF LARGE RETAINED HERNIA OPERATED UPON WITH FATAL RESULT.

The speaker has had two unsuccessful results which he thinks will be of service to his colleagues to have knowledge of, as they seem to indicate that size of the hernia alone, when it is excessive, may constitute a contraindication to radical operation. The first case was that of a man weighing 250 pounds, six feet in height, and not over stout. There was a retrocession of the abdomen below the umbilicus. He had a right inguinal hernia, the tumor of which reached almost to the knee. It proved an operation effecting almost the whole of the large intestines, and several feet of the small intestine. The mesentery had become extremely thickened, by actual measurement being more than two inches in thickness. There were no adhesions. The patient was placed in a pronounced Trendelenburg position. After the opening of the sac the intestines were gradually pushed back into the abdomen. The abdominal walls relaxed well, and the intestines went back without difficulty. It was very hard to get all the mesentery back, but this was finally successfully accomplished. When the wound was closed the abdominal walls did not seem over tense. The patient had taken the anesthetic very well, but began to cough severely almost immediately on coming out from its influence. A large amount of frothy mucus was coughed up. Death ensued thirty-two hours after, evidently from interference with pulmonary function, though no special lesion developed.

The second case was that of a man aged fifty-two years, a prominent educator in the West, who had a very large tumor due to a right inguinal hernia. He was six feet two in height, and weighed 350 pounds. Despite this large weight he did not have the appearance of being too fat. His hernia had developed many years ago, as a result of riding in the mountains, and could not be retained by a truss. When it became very large it was supported from his shoulders in a bag arranged for the purpose. It became strangulated twice. And each time relief was obtained only with the greatest difficulty. It was extremely painful and gave a sense of continual discomfort, even while he was in bed. He realized all the dangers of the operation, yet felt that life was not worth living in his present condition. On examination his scrotal hernia proved to reach nearly to his knee. The operation was done without much difficulty. After the incision of the sac the omentum proved not to be very much thickened, the appendix was extremely lengthened and hypertrophied. It was at least six inches long and as thick as the index-finger. The cord was very long from the opening in the abdominal wall to the testicle being at least twenty inches. It was very interesting to see how completely the dartos contracted after operation. The intestines presented some difficulty in getting back at first, but the resistance suddenly yielded and their replacement was easy. After coming out of the anesthetic his respirations rose from sixteen to forty. His pulse rose to 140 and his temperature to 102° F. The next day his temperature and pulse came down, but the respirations continued as frequent as before. There was no nausea, after a day or two he digested well and he slept well. His respirations continued rapid until the ninth day, when he died suddenly. The autopsy proved absolutely negative. Nothing could be found to account for the death.

There are no such cases as this mentioned in medical literature so far as I have been able to ascertain. I have operated on large tumors and have not considered size as a contraindication to radical operation for hernia. It is evident, however, that this must be given careful attention in all such cases.

The next paper was read by DR. WILLIAM S. MACLAREN of Litchfield, Conn., and was entitled

THE SPHERE OF DRAINAGE IN SURGERY OF THE APPENDIX.

He thinks that drainage is not only useless but harmful after operation for appendicitis. Appendicial abscess should no more be treated as an ordinary superficial abscess than should an ulcer of the stomach be treated in the same way as an ulcer of the leg. The use of drainage introduces a factor on the wrong side. Irritation is set up where inflammation existed before. If a glass tube is used it is practically a foreign body and causes a similar reaction. Gauze drainage is irritant just in proportion to the amount of gauze used. Even in septic cases the best treatment is to leave the abdomen filled with saline solution and close up the abdominal wound completely. The use of saline plentifully dilutes the toxins present in the peritoneal cavity, and spreads the septic material over a large amount of peritoneum. Now each square inch of peritoneum is capable of destroying a certain amount of infectious material. When the virus present, whether chemical or biological, is spread over a large surface the resistive vitality of a large number of cells is called into action, and the result is final victory over the morbific agent. In a recent case in which an appendicial abscess had ruptured into the peritoneal cavity the incision of the peritoneum was followed by the exit of foul smelling pus. This was not walled off and general peritonitis seemed already in progress. Eight ounces of peroxid of hydrogen was poured into the cavity and then the peritoneum was flushed out with a saline solution. Finally, after being left full of the solution it was closed. The patient recovered.

DR. THOMAS B. SCULLY of Oneida County followed with a paper, entitled

APPENDICITIS: ITS TREATMENT FROM A MEDICAL AND SURGICAL STANDPOINT.

Two much importance has been placed on the surgical aspects of appendicitis. This has led to a reaction in many minds, and among a great many of the profession, and especially among the laity, the present rage for operation is considered a fad. For the first twenty-four hours, at least, appendicitis is practically always a medical affection. Though it must be borne in mind always that it may at any moment become a surgical one. If when a case is first seen morphin and strychnin be given hypodermically and magnesium sulphate by the mouth,

with an injection perhaps of water and glycerin, the medical man may await results. If the temperature and pulse are high, aconite and veratrum viride may be used in order to bring them down. If there is no abatement of the symptoms after twenty-four hours operation should be advised. The magnesium sulphate is best taken in teaspoonful doses every half hour until there is free watery evacuation. Salines used in this way deplete the inflammation, lessen the amount of toxins in the circulation, clean out the intestines and prepare the patient for operation later should it be necessary.

THE ADMINISTRATION OF NITROUS OXID WITH AIR OR WITH OXYGEN,

was the title of the next paper by Dr. Thomas L. Bennett of New York County.

He considers that nitrous oxid is the ideal anesthetic. It does not cause struggling or excitement and does not give rise to stimulation. Struggling at the beginning of an operation is often a serious matter. More than one appendicial abscess has been ruptured under such circumstances. For delicate patients excitement and stimulation are very exhausting. Then nitrous oxid does not cause disturbance of the heart, lungs, or kidneys. It has been given millions of times for the extraction of teeth, practically without ever causing death. It is especially indicated for very weak patients, or for those who from previous experience are known to stand the ordinary anesthetics, ether or chloroform, badly. It is also indicated for patients who have kidney or lung trouble or for the aged whose heart and lungs and kidneys are liable to be affected, and whose vascular apparatus is in a degenerated condition. The administration of nitrous oxid requires special experience, at least one death has been reported recently where a young interne in a hospital was administering gas and did not recognize the symptoms which indicated that the patient had had enough of the anesthetic and that it was dangerous to give more. Gas is particularly useful for small operations, like the opening of abscesses, the curetting of bone or of sinuses or the curetting of internal organs or in general for operations that take but a few minutes.

Dr. Merrill Ricketts of Cincinnati, Ohio, read a paper with the title

CHOLANGIOSTOMY, WITH REPORT OF TWO SUCCESSFUL CASES.

He reported two cases in which he has made incisions through portions of the liver substance in order to get at gall-stones in the intrahepatic ducts, or in a very contracted gall-bladder. Hepatostomy for these concretions that form within the liver is a thoroughly feasible operation. It used to be thought that incision of liver substances caused uncontrollable bleeding, but the wound may be packed and hemorrhage is easily managed. In one of Dr. Ricketts' cases constriction of the gall-bladder caused that organ to retreat so much beneath the edge of the liver that it could not be reached through the ordinary incisions made over the region of its fundus. In this case an incision was made through the liver, the stone removed, and the wound packed. Pus and bile flowed for six weeks, a sinus finally remained, but this at length closed. In another case the occlusion of the cystic duct seemed to have been brought on by a tubercular process in the biliary passages. Operation was performed through the liver and an attempt made to do a complete hepatoduodenostomy. The attempt was unsuccessful, principally owing to the fact that the tubercular process continued its course. Death ensued after five months.

The next paper was read by Dr. Reginald H. Savre of New York County and was entitled

THE DIFFERENTIAL DIAGNOSIS BETWEEN CHRONIC JOINT DISEASE AND TRAUMATIC NEUROSIS.

Error is comparatively easy in the differentiation of these two affection, though it is usually thought not to be. Mistakes are made, not rarely even by men of large experience. It is especially because the history of the patient is defective and sufficiently careful inquiry is not made as to the details of the affection. Hysterical joints may be differentiated from inflamed joints by careful examination of the patient. The absence of inflammatory signs is of some importance. Usually the patient will permit motion in the joint which was at first said to be very painful if manipulations are first undertaken in a neighboring joint. And this gradually made to include the affected joint without attracting the patient's attention. Where the case is seen several times, pains may be complained of at different points on different occasions. The general appearance of neurotic patients is an important pathognomonic sign which may be recognized without much difficulty.

In general the following rules will help in the diagnosis: A joint neurosis is apt to follow injury at a much shorter interval than does actual joint disease. The general temperature of the patient is usually a little below normal in neurosis. In inflammation of the joint it is usually higher than normal. The local temperature, that is, that of the affected part, is lower in case of a neurosis, while it is high in disease of the joint. Muscular atrophy progresses more rapidly after nerve injury. True muscular atrophy is not present except in joint disease. It may be simulated, however, by the atrophy of inaction consequent upon a hysterical joint affection.

Afternoon Session.

The first paper was read by Dr. Leroy J. Brooks of Chenango County. It was a sequel to his paper on the same subject last year, and was entitled

SUBNORMAL TEMPERATURE.

He considers that the temperature is frequently of diagnostic significance at the beginning of obscure affections. He has found, for instance, that melancholia is nearly always preceded by subnormal temperatures for some time. Often this subnormal temperature seems to be due to a weak circulation, especially to a weak heart, which by supplying insufficient nutrition to the brain predisposes to melancholia. Subnormal temperatures occur very often before attacks of epilepsy. Apoplexy seems often to be immediately preceded by a lower temperature

than normal, and low temperature always develops immediately after the seizure.

Of course, it must be borne in mind that certain people have a low temperature even in health, and of this fact the doctor must have cognizance before hand, or he will attribute to it a significance that it has not. Toxemias, especially toxemias of intestinal origin, are prone to give subnormal temperatures.

They occur in all diathetic diseases. They follow severe burns, especially if extensive, and certain skin lesions such as scleroderma produce low temperature.

DR. A. A. HUBBELL of Erie County next read a paper, entitled

EYE COMPLICATIONS IN TYPHOID FEVER

which appears in this issue of the MEDICAL NEWS.

The next paper, entitled

THE EFFECTS OF CERTAIN OCCUPATIONS ON THE PHARYNX,

was read by DR. SEYMOUR OPPENHEIMER of New York. He said that occupation pharyngitis is a rather common affection. An example of it may be seen from a recent case. A laundress developed a granular pharyngitis with relaxed mucous membrane, sore throat, constant expectoration, and congestion of the pharyngeal tissues. Treatment failed to be of much benefit. She had never been troubled before she took up the occupation of laundress, which required her to live a good deal in heated air. As soon as she changed her occupation the pharyngitis readily yielded to treatment.

It is usually not the temperature of the air, however, but the dust and foreign particles it contains which causes it to be irritating to the pharynx. Industries involving the breathing of smoke, of acid fumes, are especially liable to set up this industrial pharyngitis. In a recent case, a solderer of metals, who had worked a good deal where acids were commonly employed, had a pharyngitis that was very obstinate to treatment. Whenever he stopped work for a while, however, it immediately began to improve.

Young persons are much more affected than adults, and it is wonderful how soon after the mill is shut down. As soon as work begins again the old affection returns. The furnaces in our modern houses, with their dry, warm air, cause swollen, erectile tissue in the nose. This limits the amount of space through which nasal breathing may take place, and so mouth-breathing is begun, and this practically always causes pharyngitis. The treatment for occupation pharyngitis is mainly the use of simple alkaline sprays. The indication, of course, is adapted to remove the cause if possible by a change of occupation.

The next paper was read by DR. Z. J. LUSK of Wyoming County. Its title was

THE TOPICAL APPLICATION OF IODOFORM IN THE TREATMENT OF TUBERCULAR PERITONITIS WITH CASES.

He has found that in hopeless cases of tubercular peritonitis inunctions with iodoform and vaselin often seem to be effective in controlling the progress of the disease and causing the resorption of morbid products. He reported altogether eleven cases in which applications of iodoform and vaselin, 1 to 5, produced excellent results. With this treatment he combines tonics and cod-liver oil.

The paper by DR. JOHN W. S. GOULEY of New York County, entitled "Notes on Catheterism, Catheters and Bougies," was read by title.

DR. THOMAS F. REILLY of New York County, then read a paper, entitled

AN EPIDEMIC OF INTERCOSTAL NEURALGIA.

During the spring he saw a series of fourteen cases, including his own, of an affection that began with an intercostal neuralgia and was frequently complicated by an herpetic eruption. As other physicians in the neighborhood also saw cases of similar character he thinks he is justified in speaking of it as an epidemic. The first symptom was usually a severe pain in the left hypochrondriac region. This was continuous and the sensation was as if the spleen were pushing out the rib. After this there was profuse perspiration, then diminution of pain, and a drop in the temperature. The next day there was usually another paroxysm, repeating the features of the day before. After this the herpetic eruption appeared. In one case there were four paroxysms. There was no enlargement of the spleen in any case. In four of the cases the herpetic eruption occurred as herpes zoster or zona. In eight of the cases the herpetic vesicles appeared on the face, or on the mucous membrane. In two further case there was no eruption. There was a general pruritus which was not limited to the nerve over which the pain had occurred.

A number of things point to the fact that such cases are due to a special infectious agent that has its point of attack in the superficial nerve. One attack of the disease seems to confer immunity. There is a certain epidemic character about it, and in this series of cases three patients were members of one family, while in two other houses two members of the respective families were attacked. Epidemics of the disease have been reported from Vienna as occurring especially in the spring and fall. Sometimes the plasmodium malariæ has been found in the blood, but quinin had no effect in Dr. Reilly's cases. The best treatment seemed to be the strapping of the affected side with adhesive plaster. This should not be applied in a single piece as is often done, but in strips or ribbons about two inches wide.

The next paper, "Non-malignant Strictures of the Esophagus, Their Treatment by Retrograde Dilatation," by DR. HENRY MANN SILVER of New York County, was read by title.

DR. FRANK S. MILBURY of Kings County then read a paper, entitled

SUPPURATIVE ETHMOIDITIS AND ITS TREATMENT.

The ethmoidal sinus is the most frequently affected of the accessory sinuses of the nose. While suppuration is frequent, necrosis is rare. When suppuration occurs, eye symptoms frequently develop. There is pain at the base of the nose, or below the orbit, or back of the eye, or a painful sense of pressure over the whole head. Often

enough there is no pain at all. Sometimes there is a bulging at the inner canthus of the eye. Sometimes the tumor here ruptures and gives exit to pus. Usually pus will be found flowing from below the middle turbinated bone. Though the pus has a very unpleasant odor this is often not noticed by the patient himself, as the nerve of smell has been injured by the pathological process in the nose.

The indication in suppurative ethmoiditis is to provide a free issue for the pus. This should be done through the nose. In a number of cases the forceps invented by Dr. Milbury himself enable one to make a free opening into the ethmoidal cells in order to secure thorough drainage. It is not necessary then to remove very much of the middle turbinated, and the tissues of the nose with their important functions are spared.

The paper of DR. EDWARD H. SQUIBB of Kings County, entitled "Brief Comments on the Materia Medica, Pharmacy, and Therapeutics of the Year Ending October 1, 1899," was read by title.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held October 3, 1899.

THE President, FREDERICK PETERSON, M.D., in the Chair.

CEREBELLAR TUMOR.

DR. W. B. NOYES presented a boy, aged five years, who had been well up to last June. At that time he had had an obscure illness which had been diagnosed by the attending physician as an auto-intoxication. He had remained unconscious for two days. During July he had been in fair condition. In August it was noticed that he staggered when walking. When sitting down he could move his legs, but there was absolute ataxia. There was a slight spastic condition of the legs which interfered with properly obtaining the knee-jerk. Ankle clonus could be occasionally elicited. There were no sensory disturbances of any sort. His mental condition was becoming slowly worse. Examination of the eyes showed papillitis with hemorrhages over the disk. The pupils were dilated and did not respond to light. There had been neither headache nor vomiting. The case was presented as probably one of cerebellar tumor. The speaker said that it was not impossible that the sickness which had occurred last June might have been a meningitis; it was also possible that there was a hydrocephalus.

DR. GEORGE W. JACOBY said that he had been impressed with the general laxness of the boy and the bending forward of the thorax. This general loss of muscular tone made him believe the diagnosis of cerebellar tumor to be correct.

DR. HUGHES of St. Louis said that while the case suggested cerebellar tumor it seemed to him not improbable that there had been a cerebrospinal meningitis, and that the present condition was the result of this meningitis.

DR. EDWARD D. FISHER inclined to the view that the case was one of cerebellar tumor, although admitting the force of the statement of the last speaker.

DR. NOYES thought the condition of the eyes alone seemed competent to settle the question of the diagnosis. He had been unable to find the report of a case of hydrocephalus producing optic neuritus, although it might cause optic atrophy when very far advanced. The disease was evidently progressing rather rapidly now.

BRACHIAL PLEXUS PRESSURE PARALYSIS.

DR. WILLIAM M. LESZYNSKY presented a young woman having a brachial plexus paralysis affecting both arms, the result of pressure. The biceps group was paralyzed; the extensors and the deltoid were extremely weak; there was an atrophy around the shoulder joint. There were no sensory symptoms. The faradic irritability was lost in the nerves and muscles. On the right side there was the same condition, although to a less degree. The paralysis had existed three months. The etiology in this case was interesting. She had been operated upon about three months ago for an abdominal growth. Immediately afterward a paralysis had developed, undoubtedly from the pressure exerted for about one hour and a half by an apparatus used for support. Dr. Leszynsky said he had seen similar cases of pressure paralysis, but in this instance the paralysis had been so severe, and had lasted so long that it brought up the interesting question as to whether or not the surgeon might not be open to a suit for damages. On inquiry he had learned that this form of paralysis was not at all uncommon at the present time in surgical practice, yet it was entirely avoidable. In an article by Dr. Garrigues several cases had been reported in which the paralysis had lasted for a year or more, and had been followed by atrophy. The apparatus referred to usually made pressure between the clavicle and the first rib.

DR. FISHER said that these cases of pressure paralysis were quite commonly observed after operations, as for example for appendicitis, but he had never before seen a case in which both sides had been involved. Negligence in attending to the position of the arm during operation was often responsible for such paralysis.

DR. FRAENKEL said that while many cases of post-operative paralysis had been reported, it should be remembered that in some the paralysis had been ascribed to the ether, although in others the influence of pressure had been definitely shown. This made it difficult to hold the surgeon liable in many instances.

DR. G. W. JACOBY said that the various cases had been recently tabulated and the conclusion reached that all the paralyses could only be explained by pressure. The concensus of opinion at the present time seemed to be that the ether could not give rise to this form of paralysis. Surgical assistants were often very negligent about these matters. For example, he had found an assistant giving hypodermic injections of ether and brandy in a case of collapse, directly over the musculospiral nerve, and the ensuing paralysis he would have found difficulty in explaining had he not seen these injections being given. Again, he had known it to be positively asserted that there had been no pressure, and yet he had personally seen the etherizer resting his elbows heavily over the patient's clavicles.

Dr. Frederick Peterson said that he had seen even the peroneal nerve affected in this way after ether narcosis. In every case that he had investigated he had found that there had been a possibility of the paralysis having been produced by pressure. The question was of great importance, for he believed it would be perfectly possible for such a paralyzed patient to collect damages from the surgeon on account of such negligence. Nearly all the pressure paralyses occurring at night developed during alcoholic sleep, and he had come to look upon these as occurring in nerves which had been rendered especially vulnerable by ether or alcohol, or, as suggested by Dr. G. W. Jacoby, the inhalation of carbonic oxid in close sleeping-rooms. In cases of musculospiral palsy the nerve was generally pressed upon when the patient slept with the arm raised and the hand under the back of the head.

Dr. Hughes said that the paralyses following the comatose state in epilepsy exhibited local peripheral expressions. Neurologists had been accustomed to consider these as of central origin. His own opinion was that ether was a factor which could not be ignored—that it was a toxic factor, acting on the peripheral cells, thus rendering the nervous system vulnerable, just as did alcohol. He had not yet been convinced that these cases were exclusively peripheral paralyses, and owing to this lack of unanimity among neurologists regarding the causation of these cases their medico-legal aspect assumed grave importance. Many of these patients recover just as in the case of epileptic paralyses, and he was inclined to think that the toxic condition of the brain found associated with etherization was an important etiologic factor.

Dr. Leszynsky said that he could not agree with the views of the previous speaker regarding the effect of etherization. When a healthy person was etherized it could hardly be said that the toxic condition was so soon responsible for the paralysis; it was rather a case of extreme pressure made during unconsciousness. In his own mind there was no question that all of these cases were directly due to pressure made during unconsciousness. Ether, like other stimulants, might give rise to cerebral hemorrhage, or induce hemiplegia of the hysterical type. If these cases were due to a lesion in the anterior horn they would not all recover, as occurred invariably in the class of cases under discussion.

THE CENTRAL NERVOUS SYSTEM IN ACUTE MALARIAL INFECTION.

Dr James Ewing read this paper. He introduced the subject by reporting the following three cases:

Case I.—Estivo-autumnal malaria, with marked cerebral symptoms and infection with a single, well-defined group of parasites. The patient was a soldier who had just returned from Cuba. The stupor lasted thirty-six hours prior to death. Two days before death there had been many ring-shaped organisms in the blood. The stupor began twelve hours after sporulation occurred. At the autopsy the viscera showed the lesions of severe malarial infection. The capillaries of the cerebrum, cerebellum, medulla, and cervical cord contained a large number of cells harboring parasites. Many capillaries were occluded by thrombi. The ganglion cells showed everywhere a reduction in size, irregularity and splitting or loss of the chromatic bodies. Death was due to the massing of the parasites in the capillaries. The case was a good example of comatose malaria of the cerebral type.

Case II.—This patient had chills on alternate days for several days, and on admission had a pulse of 110, and was much prostrated. There were marked insomnia and mild delirium for awhile; then the delirium became more marked, and finally there was coma, lasting for some time before death. There was no evidence that the coma was uremic. The temperature reached 108° F. shortly before death. On October 12th the blood contained an enormous number of ovoidal, spherical, and crescentic bodies. On October 25th, or eight hours before death, very few crescents could be seen. None of the younger forms was found. The autopsy showed moderate edema of the brain, the basal vessels normal, and very few parasites present. The deposit of pigment in the brain was slight. Throughout the cortex the cells showed no marked change further than a uniform diminution in the chromatic substance. In many of the pericellular lymphocytes were peculiar structures—elongated fibers or rods with tapering ends—of undetermined nature. Similar deposits were found in other cases of malaria, and in one case of tubercular meningitis. The chief feature of this case was the prolonged delirium and coma, yet the post-mortem examination showed far less change in the kidney than was usually seen in profound malarial infection.

Case III.—This was a case of fatal malaria associated with hemoglobinuria. The man had contracted malaria in Santiago in July, 1898. He was comatose, extremely emaciated, excessively anemic, and moderately jaundiced. He was at Camp Wikoff for three days prior to death. The dura and pia were distinctly jaundiced. The cerebrum, cerebellum, and medulla showed the usual injection of vessels with blood, but the vast majority of the vessels were free from the parasites. An abundant deposit of hematoidin in the kidneys was interesting.

Commenting upon the foregoing cases, the speaker said that when the brain cortex was markedly brownish it indicated usually the presence of a large number of parasites, but this was not an invariable rule. The majority of cases of comatose malaria did not exhibit the massing of the parasites in the brain. Of eight cases in which he had examined the brain after death in none was there a distinct brownish discoloration of the brain. Hemorrhages had been found in some cases, as had also a moderate degree of edema. Usually the parasites were uniformly distributed in the brain and cord, but a case had been reported in which they had been localized in the medulla. The number of these parasites was often enormous, and complete occlusion of the vessels was not at all uncommon. While most of the fixed pigment was found in the endothelium, the parasites were rarely seen in the endothelial cells. To the general condition of the obstructed circulation it was probably safe to refer the

cerebral symptoms observed in these severe cases of malarial infection. The ganglion cells, in cases of comatose malaria, had been studied, and the changes found to consist chiefly in the various degrees of chromatolysis. The dendrites were usually involved before the cell body. The ganglion cells appeared to suffer less than in the average case of typhoid fever. The mere presence of the parasites in the tissues seemed to exert no bad influence except in a mechanical way. In one of the cases reported in the paper the deepening of the coma could be apparently connected with the progressive filling of the capillaries with the parasites and the formation of thrombi. In the other two cases the parasites were few and the pigment scanty. In both of these cases the malarial infection was exceedingly severe. These cases showed that the coma of malaria was not always referable to the presence of the cerebral parasites. Of the writer's sixty-four reported cases of malarial coma, there were five simple tertian infections. In the estivo-autumnal cases, with crescents only in the blood, there were thirty-four instances from the Montauk camp. Coma appeared to be rather frequent in patients showing only crescents in the blood. Crescents did not exhibit such a tendency to unequal distribution as did the fertile forms. From the condition of the viscera found in the second and third cases reported—and this variety occurred expecially in cachectic individuals in whom the disease had existed for some weeks—it seems probable that the coma was the result of the general and profound malarial infection. The writer did not believe that much importance should be attached at the present time to the condition of the ganglion cells in malaria. When the coma resulted from the massing of the young parasites in the brain, it was generally gradual in onset, and the prognosis was very unfavorable. In some cases the coma developed suddenly, and was more amenable to appropriate treatment. The general clinical character of these cases indicated that an embolic process was concerned in their causation. Of eleven cases of the first class, reported by the writer, ten proved fatal. To summarize: The three anatomical conditions were: (1) The mechanical obstruction of the cerebral capillaries by large numbers of young parasites; (2) an embolic process causing an occlusion of some vessels (usually temporary) by parasites or pigmented leucocytes, and (3) a general toxemia, such as might occur in other infectious diseases, the blood showing few, if any, autumnal rings.

DR. W. B. NOYES said that two years ago he had seen at the Columbus Hospital, in the service of Dr. C. H. Lewis, a case in which there was coma, stertorous respiration, partial paralysis and irresponsive pupils. The blood taken from the spleen at autopsy showed the presence of pigmented leucocytes, parasites of the estivo-autumnal variety. Sections from every part of the brain, without staining, showed that the walls of the capillaries were infiltrated with pigment. The absence of the parasites and the enormous amount of pigment were especially noteworthy. In the other organs of the body the usual lesions of pernicious malarial fever were found. In this case the diagnosis during life had been cerebral hemorrhage by almost every physician who had seen the case—certainly the clinical appearances were the usual ones found in cerebral hemorrhage.

DR. LEWIS A. CONNER thought the jaundice might explain some of the comas that were otherwise inexplicable. It was surprising sometimes how an apparently moderate degree of jaundice might be associated with very marked cerebral symptoms.

DR. FRAENKEL said that he looked upon most of the nervous consequences of malaria as due to toxemia. He was reminded of a patient who had presented a well-defined picture of aneurism at the base of the brain. He had been under observation for a considerable time without noteworthy symptoms until suddenly he had chills and fever. At that time the patient was in a room in the hospital in which there had been malarial fever. The chills and fever recurred regularly for two or three days, and then he was removed to another room. He then had an acute maniacal seizure, and after half an hour talked in a typical paranoiac fashion. He next became rational, but developed the same train of symptoms the next day at the same time. The blood showed the estivo-autumnal parasites. The man finally recovered, and is well at the present time. Another case was cited bearing upon the view that a malarial toxemia was responsible for most of the nervous symptoms. When first seen this person had been sick only two hours. He stated that he had suddenly become unconscious, and that this had been immediately followed by a urticarial eruption. He had a very slow pulse and some fever. On the third day there was a severe chill, some jaundice, and a temperature of 104° F. The blood showed the presence of the parasites of estivo-autumnal malaria. The patient recovered in due time, only to have a similar attack about the same time the following year. Such a case, the speaker thought, could hardly be explained by mechanical obstruction; it was rather an example of the effect of a general toxemia.

DR. HUGHES said that the paper was very satisfactory in that it explained certain old and well known clinical facts. Williamson of England had been one of the first authors to refer to the effect of malaria on the nervous system. A case of infantile paraplegia was recalled which he had seen many years ago. When first seen the patient had been unable to sit or stand. He had at once suspected malaria, and a vigorous course of quinin had resulted in a rapid and seemingly miraculous cure. He was inclined to believe that the effect of malarial infection was principally spent upon the vasomotor system.

DR. WILLIAM HIRSCH reported a case of a gentleman sent to him from the South about one year ago, with a diagnosis of spinal tumor. The symptoms were atrophy of the muscles of the left shoulder, associated with intense pain. The patellar reflexes were exaggerated. After having had the patient under observation for some time, and studying the previous history very carefully, he had become convinced that this was not the correct diagnosis. The patient gave a history of having had a somewhat similar attack some time before from which he had recovered. While under observation the

man had developed a typical malarial temperature, and this had been associated with splenic enlargement. Examination of the blood at that time had been negative. After about six weeks of antimalarial treatment recovery had been complete. A very peculiar symptom in this case was a decidedly tender swelling over the sternum. This had disappeared as the patient had improved. The man, against advice, had returned to his home in the South, and when seen again, a few weeks ago, had been in a worse condition than the year previous. The left clavicle then exhibited a tender swelling, like that observed previously over the sternum. There were similar swellings over one ulna and on one portion of the skull. He was now improving rapidly under antimalarial treatment. The case was reported because of this peculiar affection of the bones.

DR. TELLER of Memphis said that he practised in a district in which malaria was exceedingly common and very malignant. In his neighborhood these peculiar neurotic manifestations of malaria were so common as to make the physicians constantly on the lookout for them. The cases of cerebral congestion were all too common, and very frequently proved fatal. The physicians of his locality looked upon the disease as a profound toxemia.

DR. EWING said that he had been especially interested in the remarks of one of the speakers concerning patients exhibiting jaundice. These subjects commonly showed at autopsy profound and peculiar changes in the liver. In the cases reported by Dr. Hirsch there were certain features that seemed to him to point to syphilitic infection. In conclusion, the speaker said that the medical profession is too prone to jump to the conclusion that a disease is malarial because it seems to respond to the administration of quinin. A very large number of nervous conditions, that had been referred to as malaria by the older writers, should be excluded at the present time, because they had not been properly authenticated according to modern notions.

THERAPEUTIC HINTS.

For the Induration of Eczema and Psoriasis.—UNNA of Hamburg states that the induration observed at the site of old spots of eczema or psoriasis are not due to an infiltration of the corium, as is generally believed, but to a simple hyperplasia of the Malpighian layer of the epidermis, which he treats as follows: If the affected areas be limited in extent:

℞ Ungt. zinci oxidi, Resorcin aa. . . . ℥ ss
Ichthyol, Vaselini aa. . . . . ʒ i.
M. Ft. unguentum. Sig. External use.

If the areas be extensive the application should be less powerful:

℞ Ungt. zinci oxidi . . . . ℥ iss
Resorcin, Vaselini aa. . . . . ℥ ss.
M. Ft. unguentum. Sig. External use.

A thin layer of the ointment is spread over the indurated areas daily until the epidermis begins to peel off, which occurs in from one to three days. The applications then cease, and if the process be painful a sedative ointment is used until the new epidermis is formed.

For Painful Bruises.—

℞ Tinct. aconiti, Tinct. opii, Chloroformi aa. . . . . ℥ ss.
M. Sig. External use. Shake well.—*Whelpley.*

Liniment for Use in Rheumatism.—

℞ Tinct. camphoræ, Tinct. opii, Spts. ammoniæ aa. . . . ℥ ss
Ol. olivæ . . . . . ʒ i.
M. Ft. emulsio. Sig. External use.—*Dunglison.*

For Sensitive and Irritated Nipples.—

℞ Ichthyol . . . . . ʒ ii
Lanolini, Glycerini aa. . . . . ʒ iiss
Ol. olivæ . . . . . ʒ v.
M. Ft. unguentum. Sig. External use.—*Oehren.*

The Usefulness of Spartein in Cocain Anesthesia.—SCHEPPEGRELL claims that danger of heart failure from cocain is avoided by the simultaneous employment of spartein which acts as a cardiac tonic while not detracting from the anesthetic effect of the cocain. Three-quarters of a grain of spartein allowed to three-fifth of a grain of cocain.

To Promote Uterine Contractions.—In cases of deficient contractions during labor, due to a lack of muscle tone, the following formula is recommended:

℞ Quininæ sulphat. . . . gr. xl
Ac. sulphur. aromat. . . . q. s. ft. sol.
Syr. zingiberis . . . . ʒ i
Aquæ . . . . q. s. ad. ʒ ii.
M. Sig. Initial dose, one tablespoonful; afterward, two teaspoonfuls every four hours.—*Ringer.*

For Bronchitis.—

℞ Syr. tolutani, Syr. pruni virg., Tinct. hyoscyami, Spts etheris comp. aa. . . ʒ iii
Aquæ dest. . . . q. s. ad. ℥ ii.
M. Sig. One teaspoonful every three hours.—*Janeway.*

For Syphilitic Alopecia.—It is advisable to keep the hair cut short and to frequently apply a stimulating lotion, such as the following:

℞ Hydrargyri chloridi corros. . . gr. iv
Chloralis hydrat. . . . ʒ i
Resorcin . . . . ʒ ss
Ol. ricini . . . . *m.* xvi
Tinct. cinchonæ . . . ℥ ii
Spiritus (ninety per cent.) . . ℥ v.
M. Sig. Apply to scalp.

The patient should be told that temporary reddening of the hair may result from the use of the cinchona.—*Gaucher.*

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ORIGINAL ARTICLES.

THE TREATMENT OF GONORRHEA IN THE FEMALE.[1]

BY A. RAVOGLI, M.D.,

OF CINCINNATI, OHIO.

GONORRHEA in the female is as interesting a disease in the sexual sphere as it is in man. It often causes serious complications which may expose the life of the woman to grave danger. It is the result of the local infection by the gonococci, which are constantly present in every case. Indeed, I never wish to establish the diagnosis of gonorrhea if I do not find the cocci in the secretion. The microscopical examination of the secretion is so easily and so quickly made that I consider it to be great negligence on the part of a practitioner to diagnose gonorrhea without an examination of the discharge.

On account of the anatomical disposition of the organs in woman, gonorrhea always becomes more complicated, and one must distinguish the affection according to the parts affected. As in man the disease affects the urinary and generative organs, and on account of their vicinity, both are often infected. As a result, there may be a urethritis, cystitis, vulvitis, bartholinitis, vaginitis, cervicitis, endocervicitis, endometritis, and as a consequence salpingitis, oophoritis, and peritonitis.

As in man, in woman also, gonorrhea may be acute or chronic. I will not dwell long on the acute cases which present symptoms so severe and so marked as to compel the woman to seek relief from the medical profession. In these cases an abundant purulent discharge of an offensive odor oozes from the vulva, which, on account of its irritating qualities, causes intertrigo of the surrounding skin of the thighs and of the labia, with a burning and itching sensation. The labia minora are red and swollen, and if the Bartholinian glands are affected there is great swelling of the labia majora posteriorly, with pain spreading down to the thighs and to the knees. In these cases the urethra is also affected. The patient cannot retain her urine. She has tenesmus and sometimes cystitis. The suffering from acute gonorrhea is such that the woman will remember it for a long time, and will refer to it as one of the most important points of the anamnesis.

In most of the cases we have to do with chronic gonorrhea which is the result of an acute attack. Gonorrhea often remains concealed in the female genital organs without producing troublesome symptoms. I have often heard women affected with chronic gonorrhea deny any suffering, complaining only of what they call female trouble, whites, or leucorrhea. Julien has very happily described the troubles of a woman affected with chronic gonorrhea. It is not infrequently found in married women who have been infected by their husbands, who at the time of marriage still had some trace of an old posterior gonorrheal urethritis, which had been thought entirely innocent and of no consequence whatever. As the sufferings have begun after the wedding trip this is looked upon as the origin of all the trouble.

In acute cases when the discharge is so abundant that it soils every part it is impossible to distinguish the organs which have been affected and the organs which have been spared. In the subacute or chronic cases, and especially when the infection has been produced by an old, latent case of gonorrheal urethritis, one can see the organs affected and establish the exact diagnosis. I will introduce a few statistical tables taken from my hospital practice from September, 1894, to September, 1899, five years:

	Acute gonorrhea.	Chronic gonorrhea. Urethritis.	Vaginitis.	Cervicitis.
1894	51	3	1	
1895	117	6	5	2
1896	113	4	3	
1897	112	2	2	4
1898	50	6	3	1
1899	29	4	3	

	Bartholinitis. Acute with abscess.	Chronic catarrh of the excretory ducts.
1894	0	5
1895	2	7
1896	0	6
1897	1	4
1898	2	6
1899	0	3

	Subacute and chronic gonorrhea. Endocervicitis.	Endometritis.
1894	5	24
1895	10	28
1896	7	30
1897	8	46
1898	12	52
1899	6	16

[1] Read at the Annual Meeting of the Mississippi Valley Medical Association, held at Chicago, Ill., October 3–6, 1899.

	Complications of the uterine adnexa.	
	Pyosalpinx.	Oophoritis.
1894.....	0	3
1895.....	2	
1896.....	19	
1897.....	20	
1898.....	14	
1899.....	11	3

The disproportion between the acute cases of gonorrhea in reference to the chronic cases is due to the gravity of the symptoms in the first and to the mildness of the same in the second. I must remark, also, that the large number of cases in the years 1895, 1896 and 1897 was due to the enforcement of police regulations. In these three years the houses of prostitution were frequently raided, the inmates were taken to the hospital and subjected to examination, and if found diseased were detained in the institution.

In woman, as in man, Nature has placed some obstacles to the progress of the gonococci so that when a contiguous organ is recently attacked we find it to be a new complication, although it is nothing more than the spreading of the same process. When the infection originates from a chronic gonorrheal urethritis in the man the organs of the woman which are more exposed to the contagium are the urethra and the cervical canal. Indeed, in the majority of these cases we often find a subacute and chronic urethritis combined with endocervicitis. The vagina is seldom affected in adult life, and my statistical table shows only a few cases. The infrequency of gonorrheal vaginitis in adults caused its possibility to be denied, but after awhile it was established by the observations of Mandl[1], Doederleins, and Bumm[2], and thoroughly described by Calmann[3] from his observations in the clinics of Dr. R. Asch.

An acute vulvovaginitis is often found in children, when either by criminal act or by accident they become infected with gonorrheal virus. The resistance of the epithelium of the vagina in the adult I believe to be a great safeguard against the action of the gonococci. My cases of vaginitis and cervicitis have occurred in very young women, very weak and anemic and previously affected with leucorrhea. The leucorrhea macerating the epithelium of the vagina has been the cause of preparing the ground for the proliferation of the gonococci, which in the normal condition would probably have found an obstacle to their proliferation in the resistance of the epithelium of the vagina and of the cervix.

The organ which comes in contact with the meatus of the male urethra in the act of coitus is the cervix. It is furnished with a thin and delicate cylindric vibratile epithelium and the gonococcus finds there a good ground for its development. When the cervical canal is so affected, although it is an integral part of the uterus, the condition is not a true endometritis. The os uteri internum, which divides the cavity of the cervix from the cavity of the uterus, is a boundary which prevents the gonococci from proceeding further and infecting the endometrium. It is for this reason that so many cases of endocervicitis occur while endometritis is comparatively rare. When the gonorrheal affection spreads to the body of the uterus in an acute form the woman is seized with a chill, fever, general malaise, and pain in the abdomen, which is tender and cannot bear any contact. An abundant mucopurulent discharge flows from the cervix into the vagina which soils the linen and inflames and excoriates the skin. At times the woman suffers from irregular hemorrhages, and the menstruation becomes irregular, prolonged and very profuse.

In the chronic gonorrheal endocervicitis the process which for some time has remained latent in the cervix spreads to the endometrium without causing acute symptoms. The woman does not perceive any other apparent sign than a kind of moisture of the genitals. Subjective symptoms are gradual in their occurrence. The menstruation is preceded and accompanied by pains which before were never present; the period is disturbed, sometimes advanced, at other times retarded. She complains of backache, which she attributes to a strain, having lifted a heavy bucket, etc. She feels bearing-down pains in the abdomen which spread to the internal region of the thighs. She loses her appetite, her digestion is impaired, and a constant sense of fulness prevents her from eating. In a great many cases constipation increases her troubles, and in others micturition is frequent. Her general health begins to suffer. She becomes anemic, loses sleep, and diminishes in weight. She gradually becomes a neurasthenic, is extremely sensitive to all impressions, and everything affects her mentally. Sympathetic pains are felt on one or both sides of the abdomen, showing complications on the part of the tubes and ovaries. Often a woman in this condition coming to a physician does not believe that the condition of the uterus is the real cause of all her sufferings and refuses an examination. It is therefore our duty to insist upon an examination and ascertain the condition of the womb.

The examination of these chronic cases usually does not reveal much of an alteration of the external organs, with the exception of a slight redness of the ostium vaginæ. Introducing the speculum a scanty mucous discharge is found oozing from the os

[1] *Monats. f. Geb. und Gyn.*, Heft 1, 1897.
[2] Veit, "Handb. d. Gyn.," Bd. I., p. 474.
[3] *Derm. Zeits.*, Heft 4, August, 1899.

uteri, which is sometimes yellow, of a crystalline appearance, sometimes whitish, thick, tenacious and adherent. The mucus is removed with difficulty by washing with a stream of antiseptic solution. It can only be taken away by wiping with a piece of dry cotton. Often around the cervix are abrasions and excoriations which bleed at the slightest touch. The lips of the cervix appear deeply red, excoriated, covered with small granulations and in ectropic condition. I introduce a small tampon of cotton fastened about a thin uterine sound into the cervix as far as possible in order to take the mucus off the cervix, and with this I smear glass slides to search for the gonococci.

So far one can only establish the existence of an endocervicitis, but is still in the dark about the condition of the endometrium. Chronic gonorrheal endometritis we have reason to suspect already from the persistence of backache, the heavy feeling in the hypogastrium, and by reason of the disturbances of the menstrual periods. The physician will acquire the certainty when, on introducing his finger into the vagina and pressing down with the other hand on the hypogastrium, he finds the uterus very tender to pressure, hard, swollen, and increased in size. Although the introduction of the uterine sound would give the exact measure of its cavity, it is better to avoid this procedure for diagnostic purposes, because this is frequently the means of spreading the infection from the cervical canal to the endometrium. Gonorrheal infection does not limit itself to the cavity of the uterus, but may spread from it to the tubes, to the ovaries, and to the peritoneum, causing dangerous complications. Gonorrheal infection may also be carried by the circulation to the serous membranes of the body, causing gonorrheal rheumatism. In four cases of gonorrheal arthritis I could confirm the observations of Finger and others, demonstrating large quantities of gonococci in the pus and in the serum of the joints.

Returning to our subject of treatment, gonorrhea in the female as in the male must be treated in the locality where it has developed. The object of the treatment is to remove promptly and often the secretion from the mucous membranes and destroy the gonococci in the locality. The first aim is obtained by repeated and prolonged irrigations with antiseptic solutions; the second, by applications of remedies capable of causing a superficial necrosis of the epithelium, thereby reaching the gonococci which enter into the epithelial cells and find their way to the subepithelial layers of the mucous membrane. In regard to the first method, irrigations are made with solutions of bichlorid of mercury, 1 to 5000, or with permanganate of potassium, 1 to 5000. These irrigations are easily applied to the external genitalia, to the vagina, and to the vaginal portion of the cervix. With an ordinary fountain-syringe the woman can herself take the douches with one of these solutions twice a day. These will remove the mucopurulent secretion, will diminish the inflammation, but of course will not help the urethra nor the condition of the uterus. Every two or three days I insert a bivalve speculum, and with a solution of permanganate of potassium, 1 to 5000, thoroughly irrigate the vagina; then with small tampons of cotton the secretion from the cervix is carefully removed. When abundant discharge is flowing from the cervical canal I insert a Talley or Haynes douche-tube into the cervix as far as the internal os, and with a mild stream of the same solution the cervical canal is washed. When symptoms of urethritis are present the urethra is also irrigated with the same permanganate solution. This is also done by means of a short recurrent catheter. I do not find it useful to fill up the female bladder as in the male by the Janet method. The sphincter of the bladder in the female offers a great resistance to the passage of the fluid, and a forced injection into the urethra is accompanied by pain. The fluid is carried into the bladder only with difficulty. For this reason I prefer to introduce a recurrent catheter any time I have to irrigate the female urethra and the bladder. Under ordinary circumstances I seldom make use of irrigation to the cavity of the uterus unless the discharge is very profuse. Ordinarily I use instillations with a one-per-cent. solution of protargol.

The most effective antigonorrheal remedies so far known are ichthyol and the silver preparations. Ichthyol has a beneficial action, especially in cases of acute gonorrhea in the female, and in my clinics every case of acute vaginitis and vulvitis easily yields to a few applications of tampons dipped in a preparation of ichthyol and glycerin, equal parts. In the subacute and chronic cases, however, the silver preparations are much more desirable. Nitrate of silver in substance, in a thin, flexible rod, so much used in past years to cauterize the cervical canal, has been nearly discarded in ordinary cases. I reserve this cauterization for cases in which granulations are to be destroyed. In the same way I use strong solutions of the same salt only when the cervix shows excoriations with granulations. Protargol I have found so far to be the best antigonorrheal remedy, and since the time I introduced it in my clinic I have many times spared the patient a curettement of the uterus. Protargol has been used in from one- to three-per-cent. solution as a urethral injection in cases of urethritis, as an injection into the ducts of the Bartholinian glands when

affected, and especially in endocervicitis and endometritis. One of the instruments already referred to, the Talley or the Haynes double tube, has been introduced very gently into the cavity of the womb, care being taken to fill the tube with the fluid before introduction, otherwise some air is carried into the cavity. The instrument being in place, the fluid is pushed out of the syringe very slowly, drop by drop. I leave the catheter in for a short time so as to give the fluid a chance to flow back. Without this precaution, if some of the fluid remains in the body of the uterus, the woman may suffer from cramps and uterine colic. After removing the catheter a tampon is introduced to maintain the fluid in contact with the cervix.

The instillation of protargol into the uterus causes only a sense of heat in the hypogastrium, which lasts about half an hour. From this treatment the results have been exceedingly gratifying. Five to ten applications have been sufficient to bring the womb to its normal condition. Protargol in the beginning increases the discharge, which gradually diminishes, and is reduced to a thin crystalline mucus. As soon as the gonoccoci have disappeared from the secretion the instillations with protargol are discontinued, and the woman uses douches of a mild solution of permanganate of potassium or of biborate of sodium.

So far I cannot agree with Calmann on the superiority of formalin in this treatment, and I find that protargol is safer and more effective in subacute and chronic cases of gonorrheal endometritis. During treatment it is of great importance to watch the menstrual periods. While the woman improves, her menses return to the normal condition, and the accompanying pains gradually disappear, yet after the menstruation some mucus secretion passes from the uterus. This secretion must be carefully examined for the gonococci. If gonorrheal germs still remain in the glands or in the folds of the mucous membrane of the uterus, with the presence of the blood, with the menstrual hyperemia, it seems that they take on more vitality, and are to be found again in the mucus. For this reason, before discharging a patient as cured, it is best to wait until her menstrual period occurs, and then to examine the secretion.

I must add a few remarks on the curettement of the uterus in chronic gonorrheal endometritis, which has been resorted to as the only and last treatment. This operation should not be performed in cases in which the inflammatory process is still active. It increases the inflammation, and often is the cause of the spreading of the gonorrheal process to the tubes and ovaries. In chronic cases for several years I have found curettement to be the only remedy for chronic gonorrheal endometritis. From my hospital records I find that in 1895 I curetted in 14 cases, in 1896 in 30 cases, and in 1897 in 50 cases. After I began to use the treatment of instillation of protargol in 1898, I curetted in 6 cases, and in 1899 to the present month, only in 2 cases. This shows clearly the beneficial effect of this treatment, and I am gratified o state that in our ward in the last two years no complications have arisen in connection with the tubes, the ovaries or the peritoneum. During the treatment one must not forget the general condition of the woman. Constipation is often present, and for this I advise her to take half a glass of a mild purgative mineral water, with preference for apenta, which corresponds very well to the indication. At the same time the hypohemic condition must be altered by the administration of a mild ferruginous preparation.

Before concluding I must remind you that gonorrhea sometimes complicates pregnancy and the puerperium. Acute gonorrhea affecting the endometrium of the pregnant uterus is the cause of abortion. In chronic cases, however, pregnancy progresses without any trouble. In these cases the woman will irrigate the vagina with a mild solution of permanganate at a pleasant temperature, but the cervix and uterus cannot be treated directly with injections or with cauterizing agents, as they would without doubt cause miscarriage. At the same time rest should be recommended in order to spare the womb shocks, which might result dangerously. After childbirth chronic gonorrhea of the cervix may spread to the endometrium and cause subacute endometritis, which is accompanied by severe pain and a copious discharge of seropurulent secretion, which mixed with the lochia may give an idea of a septic condition. Differentiation, however, is easily made between gonorrheal endometritis and septic endometritis by the temperature curve, which in gonorrhea is mild or absent and in the septic endometritis is very high and by the odor of the lochia which in the gonorrheal condition have no offensive smell, but which in septic endometritis have a nauseous unbearable odor. It is unnecessary to say that a woman must be kept in bed in a state of absolute rest. Morphin must be administered to relieve the pain. Hot applications to the hypogastrium have a beneficial effect. Warm irrigations with antiseptic solutions to wash out the vagina and remove the secretions should be carried out. Stronger applications are reserved until after the puerperal period is over.

Gonorrhea is not difficult to cure when every af-

fected organ is treated. The trouble is in the possibility of reinfection. For this reason one should recommend, especially to a married couple, when both have suffered from gonorrhea, the use of a condom for a long time, until both are completely cured.

AN EXPERIMENTAL STUDY OF ASPIRIN, A NEW SALICYLIC-ACID PREPARATION.

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FOR some time I have been engaged in investigating a new preparation which is practically unknown in the United States, while only two reports of its properties have been published in Europe. One of these reports is from Dr. Julius Wohlgemuth, Assistant Physician at the Medical Clinic of Professor Leyden[1] of Berlin. The other is by Dr. Kurt Witthauer,[2] Physician and Chief of the Deaconess Hospital at Halle. No article in English has appeared upon this preparation up to the present time.

This new product, which has been introduced into the market under the commercial name of Aspirin, is a combination of acetic acid with salicylic acid. Acetyl salicylic acid (aspirin) is prepared by the action of acetic acid anhydrid upon salicylic acid. It occurs in the form of white crystallin needles, which have a melting-point of 135° C. (275° F.). Ortho-oxybenzoic acid (salicylic acid), which is found in nature as an aldehyd in the ethereal oil of the spiræa ulmaria, Linné, and other varieties of spiræa, as well as in the ethereal oil of gaultheria procumbens, Linné, has since the first experiments with it by Buss and Stricker, in 1876, proved an invaluable remedy in rheumatic conditions. As is generally known, this preparation, however, has the disadvantage of producing gastric disturbances, besides tinnitus aurium, delirium, depression of the heart, troublesome headache, and even conditions of collapse. The new product, aspirin, is soluble in weak alkalis, and as shown by experiments is separated into its two components in the course of three to five minutes. Hence, its action does not take place until it reaches the alkaline intestinal juice by which it is decomposed. In pathological conditions of the stomach in which acidity or subacidity prevails, as in carcinoma ventriculi, a partial decomposition of aspirin occurs in the stomach. In a case of advanced gastric cancer I administered for the purpose of experiment 1 gm. (15 grains) aspirin three times daily. The gastric juice was withdrawn one hour after its administration and tested, with the result that a reaction was obtained by means of iron chlorid solution, showing that free salicylic acid was present in the stomach. On the second day after the total ingestion of 7 gm. (105 grains), gastric disturbances, such as pain in the epigastrium and nausea, developed, which disappeared, however, after lavage of the stomach. Hence, I would advise against the administration of the drug in such cases. Other substitutes for sodium salicylate or salicylic acid cannot be administered for long periods, as they produce depression of the circulatory system, or other toxic phenomena such as may occur from pronounced use of salol.

In experiments on my own person I was unable to detect any toxic effects after a dose of 5 gm. (75 grains) of aspirin, with the exception of violent headache and tinnitus aurium. The second dose of 4 gm. (60 grains), repeated in an hour, produced an increase of the frequency of pulse, a reduction of the temperature, and flashes of light before the eyes. At the end of about thirty-five minutes the symptoms disappeared, and were followed by violent headache. The tinnitus and headache persisted for about sixteen hours, and then subsided under the occurrence of profused sweats. I was able to detect salicylic acid in the form of salicyluric acid in the urine as late as fifty hours after the administration of aspirin. No exanthem developed even during its continued use.

My experiments on animals showed that the lethal dose in guinea-pigs is 1.5 gm. (23 grains) per kilo; death takes place from paralysis of the heart, and the pathologic appearances are identical with those caused by salicylate of sodium. At the commencement there was an increase in the pulse frequency, and a diminution of the hearing. After a time, however, there was slowing of the pulse and reduction of the blood-pressure; the respirations became superficial; Cheyne-Stoke's breathing supervened, followed in a short time by cessation of respiration. The poisonous effects are, therefore, the same as those observed in salicylic acid poison. Oltramore, in his pharmacological investigations of salicylic acid preparations, remarks that death was caused by cardiac paralysis. After death a marked hyperemia of the abdominal organs was demonstrated. The mucosa of the duodenum and of the small intestine were strongly hyperemic, and the seat of ecchymosis at some places. The kidneys also were very hyperemic. The urine contained albumin, which could be readily demonstrated by Heller's test.

The liberation of free salicylic acid in the stomach after administration of aspirin has been thor-

[1] *Therapeutische Monatshefte*, No. 5, 1899.
[2] *Heilkunde*, May, 1899.

oughly studied in artificial gastric juice by Dr. Wohlgemuth[1] in Professor Leyden's Clinic. In his article it is stated that the preparation is dissolved and decomposed with difficulty in dilute acids. He asserts that after two-hours' action of artificial gastric juice acid upon aspirin a very slight trace of free salicylic acid can be found, which is scarcely demonstrable by means of iron chlorid solution, as only a faint bluish color occurred upon addition of the solution. During the first two to three hours the solution and decomposition of aspirin proceded very slowly, and not until the end of three to five hours could larger quantities of free salicylic acid be detected in the stomach juice. In order to establish this fact *intra vitam*, I made a series of experiments on guinea-pigs. Three animals, each weighing two kilos. received each 0.5 gm. (7½ grains) aspirin at the same time. The first animal was killed after thirty-five minutes, and the fluid removed from the stomach, as well as from the duodenum, was subjected to examination. In the gastric and intestinal juices no reaction could be demonstrated. The second animal was killed after two hours, and the gastric and intestinal juices examined. The result was that in the gastric juice a very slight reaction was noticeable, while in the intestinal juice the reaction was very intense, so that the iron chlorid solution produced a strong violet color. This, so to speak, is pathognomonic, as it shows that the splitting up of the preparation first takes place in the alkaline intestinal juice. Further, it should be observed that the decomposition of the preparation in the alkaline intestinal fluid takes place after a few minutes. The slight reaction in the gastric juice, moreover, shows that a limited decomposition of the drug occurs in the stomach in the course of two hours, and that in cases of motor insufficiency of the stomach, gastric disturbances may ensue. It is generally assumed that it requires from two to two and one-half hours for the contents of the stomach to be carried into the intestines, and, hence, the view of Dr. Wohlgemuth is partly correct, provided there is present no disorder of the motor functions of the stomach. As a rule, it may be inferred that so small a quantity of free salicylic acid is incapable of evoking any gastric disturbances if the stomach is in a normal condition. The third animal experimented on was killed after three hours, and the gastric and intestinal juices subjected to examination. The reaction of the stomach contents was very weak, scarcely perceptible, since several tests had to be undertaken before a reaction was noticeable. In the intestinal juice the reaction was quite marked, although not as intense as in the animal killed after two hours, a proof that the decomposed preparation had already been partially taken up in the blood.

[1] *Ibid.*

These experiments demonstrated practically that aspirin is not split up into its components until it reaches the intestinal juice, and that it does not irritate the gastric mucous membrane. If we formulate the results of the above experiments we find that this preparation has the same therapeutic action as salicylate of sodium, with the advantage that it is more agreeable and does not disturb the stomach. The distressing tinnitus only rarely occurs under the administration of physiologic doses. In seventeen patients treated by me this symptom was present in only a single instance. The subject of the case was a young lady, sixteen years, old suffering from dry pleurisy. Aspirin was administered on the first day four times in 15-grain doses, without any after effects. On the second day after the administration of 15 grains of the drug the patient began to complain of troublesome tinnitus. The preparation was discontinued and atropin sulphate, $\frac{1}{150}$ of a grain, administered, and in one half hour later this symptom had entirely disappeared. On the following day the preparation was given in the same manner as before, but in a dose of 7½ grains. The day after I again increased the dose to 15 grains, and continued the use of the remedy in these quantities until the recovery of the patient, without noticing any further after effects.

At the commencement I administered aspirin in an alcoholic solution in doses of 15 grains, but after continued use for a few days in daily doses of 60 grains, symptoms of irritation of the stomach occurred, namely, a feeling of pressure in the epigastrium and nausea, so that the preparation had to be discontinued. This case was that of a woman thirty-four years of age, who during the past ten years had experienced four attacks of multiple polyarthritis. The symptoms (swelling of the joints, fever, and pain) subsided after six-days' treatment with salicylates, but the attacks recurred from time to time. I had an opportunity of treating the patient during her last attack, and employed salicylate of sodium with excellent effect. There was swelling of both knee-joints, and later the left humeroscapular joint was involved. Of course, in addition to the administration of sodium salicylate, the antiphlogistic method of treatment was adopted. The right knee joint, however, remained ankylosed after the subsidence of the acute inflammation, and it required three months' treatment by means of massage and hot baths until complete recovery ensued. Last month a fresh attack appeared which implicated the right ankle-joint. There was observed a daily temperature of

105° F. During this seizure aspirin was administered in 15-grain doses, four times daily, in an alcoholic solution, as this preparation is soluble in water at a temperature of 98½° F. only to the extent of one per cent. On the third day gastric disturbances, such as pains in the epigastrium and nausea developed. I introduced a stomach-tube and washed out the stomach with lukewarm water; besides this, I administered by the mouth $\frac{1}{60}$ of a grain of strychnin nitrate, together with $\frac{1}{6}$ of a grain of a morphin hydrochlorid. One half hour later the gastric disturbances disappeared, and the stomach contents withdrawn with a tube gave no reaction of free salicylic acid, as I was able to demonstrate by tests with dilute iron chlorid solutions. After three hours the preparation was again administered in alcoholic solutions, and the same disorders ensued. I, therefore, discontinued its use for twenty-four hours, and returned to the previous treatment, after which the disturbances subsided. At the end of this time I administered aspirin in wafers in 15-grain doses. No symptoms of gastric irritation appeared, and I was able to continue the preparation until recovery had taken place. On the ground of these experiments I would advise the administration of aspirin in wafers or mixed with some sugar.

One great advantage of this remedy over salicylate of sodium is that it is much more agreeable to take, and even during its prolonged use no aversion was experienced. As is well known, articular rheumatism is a protracted disease, and the discontinuance of salicylate of sodium is always followed by an exacerbation. By the administration of aspirin with sugar or in wafers it never becomes necessary to suspend the use of the drug in consequence of gastric irritation, and hence a cure can be obtained at an earlier period. The only disadvantage of the preparation is its insolubility.

I have treated three cases of dry pleurisy with aspirin, all of which were benefited by its administration. In a case of moist or exudative pleurisy aspiration had to be performed in consequence of the large effusion of fluid, and of the resulting dyspneic symptoms. The after-treatment consisted in the use of aspirin in daily doses of 60 grains, in addition to which tonics were administered. The patient improved with remarkable rapidity, and was discharged cured after three-weeks' treatment. In a case of pleurodynia no improvement was obtained from the use of aspirin, recovery taking place under hydrotherapeutic measures, massage, pulmonary gymnastics, and warm baths. In a case of intercostal neuralgia, as well as in a case of facial neuralgia, I employed this preparation without effect.

In acute articular rheumatism the remedy is a reliable antipyretic, and shortens the duration of the attacks. The pains diminish after a few doses, and the swelling diappears. But I would remark that the remedy is not capable of preventing recurrences. Of course, hydrotherapeutic measures must not be neglected. I administered aspirin in a few cases for periods of three weeks without the least concomitant effects. In view of the fact that in many rheumatic diseases lesions of the valves of the heart are encountered, we must be especially impressed with the value of aspirin. Depression of the heart occurs, as was shown by the experiments of Dr. Dreser on animals. This observer found that salicylate of sodium and aspirin when tested upon the isolated heart of the frog acted in a contrary manner. Koehler, in 1873, showed in his experiments on animals that sodium salicylate diminished the motor power of the heart in consequence of reduced excitability of the vagus branches. On the other hand, aspirin increases the motor activity of the heart, and in consequence of this influence cardiac collapse can be excluded during its use.

In cases of polyarthritis I found shortly after the administration of aspirin an increase of urea in the urine, while later the quantity diminished. During the use of aspirin in physiological doses I was unable to demonstrate albuminuria in a single instance, and even during its continued employment examination for albumin proved negative. In a case of sciatica treated with aspirin no perceptible improvement occurred. But I would point out that a single case is not sufficient to permit of a positive conclusion. In all cases of acute and chronic muscular rheumatism the remedy proved extremely serviceable, and produced a cure within a short time. The different cases exhibited but few features of interest, and hence I regard it as superfluous to give detailed reports of their histories.

In general, I would remark that aspirin is a most valuable substitute for salicylate of sodium for the following reasons: (1) Its agreeable taste. (2) Its freedom from irritating effects upon the stomach. (3) The absence of tinnitus aurium after the administration of physiologic doses. (4) The absence of cardiac depression. (5) The fact that it does not impair the appetite, even during prolonged use.

I feel certain that other investigators will be able to demonstrate the advantages of aspirin, and should the price not be too high it will soon displace salicylate of sodium.

Mortality in the Army.—General Sternberg reports that between May 1, 1898, and June 30, 1899, there died from disease 2774 men from typhoid fever, 476 from malarial fever, 359 from pneumonia, 342 from diarrhea and dysentery, and 185 from yellow fever.

SOME CASES BEARING UPON THE PERIPHERAL CAUSATION OF EPILEPSY.

BY FRANK H. EDSALL, M.D.,
OF MADISON, WIS.

ALMOST since the dawn of history we find mention made under various names of the disease which we to-day call epilepsy. Of old it was described as a devil which had entered into and taken possession of the mortal shell of its victim, and the contortions during a convulsion were said to be the struggles of the devil to retain possession of its tenement. Not an unjustified fancy for an age when so much that was otherwise inexplicable was explained on the basis of the influence of good or evil spirits, for even at the present day it would not require the play of a very strong imagination to convince one that the unfortunate in the grasp of an epileptic convulsion with his writhings and inhuman cries is struggling with a demon.

Such fancies must, however, give place in time to the advance of scientific information, and in the two thousand years that have passed since the Great Physician cast out devils we have learned at least that devils are not the cause of these attacks, but in view of the time and effort which has been expended all through that long procession of the ages, to the end that the mystery of this affection might be solved, exact knowledge of either its etiology, pathology, or therapy, is surprisingly small. With the hope, therefore, that some slight accretion to that knowledge may result I present a brief account of a few cases of this disease which have come under my notice in recent years, and beg to state in advance that it is not within the scope of this paper to enter into a critical study of epilepsy.

The first of the patients, M. H., aged twelve years, was the daughter of a prominent physician in the Northern part of Pennsylvania. At the time I first saw her, some five years since, she was a fairly well nourished girl of about the average size and development for her years, with no special evidence of a neurotic temperament. Her father being a physician of more than usual powers of observation he was able to give me a very minute history of her case. There was nothing as far as he knew in his own or his wife's family history which could have any bearing upon his daughter's affliction, the history of which is as follows: Ever since the real work of school had begun, in the patient's case some three years or so before, she had had at times evidences of epileptic seizures, which increased in frequency and violence with the increase in the amount of study demanded of her. Decrease in the amount of study or temporary removal from school diminished the frequency of the attacks but did not altogether abolish them. The period of their occurrence was somewhat variable, sometimes once or twice a week, again not more than that many times a month. Latterly the severity of the attacks had increased to such an extent that consciousness was lost during their continuance. Certain factors in the case had led her father to think that the child's eyes might be in some measure responsible, and to determine this point he brought her to me for examination. The question of a possible hysterical factor in the case was considered, but her father doubted its possibility and it seemed safe to exclude it.

Examination of the eyes showed vision in both to be less than 20/20, and examination by the ophthalmoscope showed the presence of a considerable refractive error. She was given a mydriatic to use, and further examination, with the eyes under the influence of the mydriatic, gave a refractive error of +2.00sph.⊖−2.50c. ax. 70° in O. D. +2.00sph.⊖−2.75c. ax. 160° in O. S. Glasses representing this were prescribed to be worn constantly. No abnormality of balance in the extra ocular muscles could be determined beyond a slight exophoria, about 3°, which was disregarded. I failed to hear from the patient again for nearly a year, at the end of which time she returned to me. After obtaining the glasses prescribed she had worn them faithfully and with greatly increased comfort. For two or three months after their use was begun she had had slight attacks of her malady but for some months there had been none. A maximum of out-door life was advised with as little study as possible for some time, with plain food and an abundance of sleep. Indirectly I heard from time to time that she was having no further trouble, but I did not see her again for nearly two years when as she was suffering somewhat from headaches I again tested her refractive state and slightly increased the strength of the cylinder for the right eye, and also made a slight variation in its axis. After this change was made there was no further trouble. I have seen her once since then, last summer. She was then in perfect health, had had no convulsion since the interval immediately following the time when glasses were first worn, and was in every way a contented young woman.

Another patient, somewhat similarly affected, was Mary X. of Washington, Pa., aged ten years. Her father gave a history of her having had several epileptic seizures within the year preceding her first visit to me. Her general condition was excellent. She was rather large for her age, and while not of more than ordinary intellectual power was not deficient. The convulsions were growing more severe and rather more frequent. No personal nor family history which seemed to have any bearing upon the

causation of the attacks could be elicited. Examination of the eye grounds showed no abnormality of either fundus. The muscular state of the eyes was as near orthophora as it well could be. Vision 20/20; slight hypermetropia. Under the use of a mydriatic she developed a hypermetropic astigmatism of 0 75 D. ax. 90° in the right eye, and 1.00 D. ax. 90° in the left eye. Glasses corresponding to this formula were prescribed and worn with such satisfactory results that when I next saw her, about a year subsequently, her father was able to report that there had been no convulsions in the interval.

The patient then disappeared from observation for about two years, returning, however, late in the fall of 1897. At this visit her father informed me that during that year the convulsions had again begun and were nearly or quite as troublesome as previous to the first visit to me. She had grown decidedly fleshly in the interval but was in excellent health. Her menstrual functions had been established during the year and were regular and painless. It was impossible to demonstrate any change in the refractive state since the glasses had been prescribed nor was there any heterophoria. I was obliged, therefore, to say that the case had passed beyond my ability to relieve it. What the subsequent history has been I do not know.

The third case in this list is that of Mr. S., a school teacher, from Indiana county, Pa., unmarried, aged twenty-eight years. He was rather ill-nourished and dyspeptic; was run down in health from overwork. He had never to his knowledge had any epileptic seizures but his history left little doubtthat he was a victim of nocturnal epilepsy, the bitten tongue and dulness and lassitude upon awaking making this most certain. He consulted me chiefly for relief from his severe headaches. His eye grounds were rather red and woolly, his vision 20/1. There was exophoria of 2°. Under mydriatics his refractive error was found to be a myopic astigmatism of 0.75 D ax. 90°. Glasses were prescribed to correspond to this error. Six months later I heard through his cousin, the physician by whom he was referred to me, that his headaches had disappeared, his general condition had improved and he gave no further account of having bitten his tongue during sleep. This was several years ago; what the course of the case has been since then I do not know.

The last case of the series, the one in which I expected to achieve most brilliant results and in which I was most disappointed, was that of a fourteen year-old boy from Washington, Pa. For two years he had had pronounced epileptic attacks of moderate severity and not especially frequent occurrence. He had a hypermetropia of 1.00 D. with an astigmatism of 0.50 D in the right eye and a similar error in the left eye. There was exophoria of 5°. The refractive error was carefully corrected, the muscular balance adjusted, and I composed myself to await the test of time as to results. I am still waiting, at least for anything favorable. It was four or five years ago that I first saw the patient. At the end of six months there had been no improvement, and then the parents began the wearisome round of all kinds of specialists, with no improvement whatever when I last heard from the case.

The first two cases and the last one bore the impress of genuine epilepsy. Both of the first mentioned occurred in young girls previous to but near the period of their first menstruation, the third in a boy about the age of puberty. All the patients showed a considerable degree of refractive error, the first one a high degree and a troublesome form. All were about at that period of school life when the work entailed is most confining and consequent mental activity increased and the resultant eye strain most troublesome. The adult case I will briefly consider later on.

With the history of these cases before us what do they teach as to the causation of epileptic attacks? Epilepsy may be described as a nerve storm arising from a central or peripheral focus, characterized by a more or less intense discharge of the motor nerve-cells as manifested by tonic and clonic convulsions, accompanied frequently by loss of consciousness.

With the class of cases in which a demonstrable central lesion is responsible for the convulsive outbreaks this paper has nothing to do, my consideration being limited to so-called idiopathic epilepsy. It is impossible in the light of our present knowledge of the pathology of epilepsy to say that epilepsy, purely peripheral in origin, ever occurs. It is most likely that all cases of it are dependant upon a central lesion of some sort, though this lesion may at times be so fine as to escape detection and of itself be unable to provoke the nerve-storm characteristic of this affection, the peripheral neurosis simply furnishing the determining factor in producing it. Under this theory the excessive demands made upon the inhibitory cells consequent upon the peripheral focus of irritation in time exhaust them to such a degree that they are no longer able to control the motor-cells which are in an unstable state, due to the (suppostitious) central lesion. Then a great wave of motor nerve-force is let loose and for the moment inundates the sufferer. These cells discharged, inhibition has time to recover control, and the unfortunate victim is temporarily free from a return of the attack.

In the first of the cases of which I have made men-

tion it is probable that the central lesion, whatever it may have been, was not deep-seated nor extensive, and that the relief from eye strain and the establishment of the menses, which followed not long after, sufficiently lightened the burden of the central nervous system to admit of the restorative forces of Nature repairing whatever trouble may have been at the bottom of the attacks, and thus the condition was permanently relieved. In the second case the condition which originated the convulsions was too permanent to be overcome, but was not at the time the patient was first seen sufficiently extensive to admit of its originating the convulsions unaided. With this peripheral factor in their causation no longer active the attacks subsided until the central lesions had advanced to a point where a peripheral determining factor was no longer necessary to produce the convulsion. In respect to the last case I need only say that while from its character I was justified in thinking it more likely that a peripheral irritation was concerned in the outbreaks than in almost any of the others, yet at the time, at least when I saw him, as the outcome of treatment proved, it was not in any way concerned therein. The third case was probably a mild form of epilepsy which doubtless followed the same course as did the first.

It is foreign to my purpose to take sides in the conflict which has been waged for some years between the advocates of graduated tenotomies in the treatment of epilepsy and those who denounce them as false teachers and heretics. As I understand it, the matter is somewhat like this: The tenotomists claim that graduated tenotomies furnish one of the chief if not *the* chief means of relief from this appalling affliction. Their opponents decry their arguments and statistics as misleading, and the spirit of brotherly love takes flight when the two sides get together, so heated is the controversy. The matter presents itself to me in this way: Asthenopia, due to refractive error, leaving out the question of whether it is causative or not, may at least determine an epileptic seizure. Muscular inequalities may produce asthenopia; therefore, why is it not possible for muscular asthenopia to determine such a seizure? The tenotomists in many instances have ridden their hobby so hard that they have been unable to read the signs by the wayside. It is a well-known fact that in many epileptics it is possible to bring about a temporary improvement simply by a change from one medicine to another. Analogously, it is possible that a tenotomy would temporarily benefit such as these remarkably, and, moreover, it is just possible that, even as a few years since some apt simulators succeeded in convincing even as bright minds as there are in the so-called School of Nancy, that mental suggestion, hand in hand with the application of a bottle containing a given drug, would produce the characteristic effects of that drug, so also it is possible that the statistics in connection with tenotomies in the cure of epilepsy may be similarly impaired. Personally, I do not believe that eye strain from any cause is responsible for the status epilepticus.

CLINICAL MEMORANDUM.

RAYNAUD'S DISEASE; WITH REPORT OF A CASE RESULTING IN DEATH.

By WILLIAM H. DUKEMAN, M. D.,
OF LOS ANGELES, CAL.

THE pathology of this unique disease is still obscure. Some writers define it as a vascular disease (Osler), while others class it as a disease of the nervous system (Starr, Dana), and still others as of vasomotor origin (Anders, Mitchell). Raynaud, however, defines the disease as a "neurosis characterized by an exaggeration of the excito-motor power of the cord presiding over the vasomotor nerves." Many writers do not recognize it as a distinct affection. So far as I can learn no autopsies have been made, the pathology thus far having been deduced from the symptoms.

The patient, a woman, was fifty-six years of age. She had passed the menopause some seven years before and was the mother of three children, all living and in good health. She had always been well until some four months before I saw her, when, after eating a hearty meal of fresh salt-water fish she had what she called an attack of acute indigestion, from which time, according to her statement, her health had gradually failed. Her family physician was called in, but no medication seemed to benefit her and she grew continually weaker during three months. On January 4, 1899, I saw her first. I found her confined to bed in an almost helpless condition. She complained of shortness of breath, cough and entire loss of appetite. She stated that soon after having eaten the fish she had felt sick and the next day had had severe diarrhea, which lasted for nearly a week, since which time she had been troubled with constipation and had grown weaker day by day until she was obliged to remain in bed.

On careful examination I could discover no reasons to account for her complete prostration. Her cough was simply a slight bronchial one; the lungs and heart were normal, there was no rise of temperature, her pulse was normal but the circulation was sluggish. There was no pain, no impairment of sensation to touch, the reflexes were normal, and there were no lesions of the blood-vessel.

I prescribed a little wine, a stomachic tonic and hot applications to her chest. Three days later she felt no better, in fact was not so well. Her cough had subsided, but she complained of a depressed feeling and the nurse informed me that she had passed a restless night, with unpleasant dreams, and the day previous had been more or less hysterical, with a tendency to cry and worry about her feeble condition.

As her left hand lay on her abdomen, I raised it and was examining the finger-tips with reference to the sluggishness of the circulation when she felt anumbness of the ring finger, but as there was nothing noticeable, I passed it by without a thought of its true nature. The next day I was called to see her as she had passed a restless night and when I entered her room she raised her left hand to show me her finger. The ring-finger was swollen and cynosed as far as the second joint; it seemed cold and dry. I pricked it with a needle, which did not cause pain, but a dark bloody serum-like fluid oozed from the puncture. For the first time I thought of Raynaud's disease. On examining the other fingers, her toes, and the entire body no other lesions were found, but the next day there were four symmetrical cyanosed patches varying in size from that of a dime to that of a 25 cent piece on the outer and lower side of the calf of the right leg.

Spells of transient loss of consciousness with sluggish circulation, depression of mind, anorexia, and a temperature of 97.2° F. occurred. In the meanwhile I had examined her urine. There was no albumin. no sugar, no tube casts, no blood, the specific gravity was 1028, and there was an excess of urates. The patient continued in apparently the same condition, but took more nourishment. In two weeks the skin of the affected finger had become necrotic, resembling dry gangrene, with a sharp line of demarcation at the second joint, and separating from the deeper tissues it peeled off, leaving a smooth, healthy surface. The patches on the leg gradually disappeared. Under treatment with tonics, the patient with returning appetite gradually grew a little stronger, and by the end of three weeks was able to walk to the balcony and sit in the open air.

About two weeks later her strength again gave way, with the same symptoms of depression and she was again confined to bed, and on February 12th I was summoned early in the morning to see her. The nurse reported that on awakening she had found her patient in a comatose condition. On examination I found a hemiplegia of the right side and on trying to arouse my patient discovered aphasia. There was now a local or symmetrical gangrene of the right ring-finger. My patient grew worse each day and on February 28th she passed into a deep coma and died three days later not having recovered consciousness.

I regret very much that I was not allowed to make an autopsy, for it seems clear that in this case some central nervous lesion could have been found to shed light on the pathology of this disease.

Dr. Byers of England, reports in the London *Lancet*, a series of cases in which he associates phthisis and Raynaud's disease. He concludes that in the disturbance of the peripheral circulation in Raynaud's and allied diseases, the pulmonic circulation is similarly affected in a phthisical patient, owing to the close connection between the vasomotor systems of the greater and lesser circulations.

In the above patient there appears to be good evidence of a central nervous lesion to a much greater extent than to cause a mere disturbance of the neurovascular system.

Erythro nelalgia, or Weir Mitchell's disease, is said by some writers to be only a less advanced stage of Raynaud's disease. But, on reading the clinical history of the two diseases, as related by Mitchell in his "Manual of Clinical Lectures on Nervous Diseases," the two affections appear to be entirely distinct.

In the case here reported there was no evidence of either disease prior to this attack. There were no symptoms pointing to any disease of the vascular system. The gradual failure of health due to toxin-poisoning, affecting the nervous system, and the final result all lead to the conclusion that in this case the pathology lay in the central nervous system, irrespective of the concomitant right-sided hemiplegia with aphasia.

MEDICAL PROGRESS.

The Dietetic Treatment of Tuberculosis—Dr. S. Schweiger (*Die Heilkunde*, August, 1899) states that in cases of pulmonary tuberculosis, in which ordinary foods can only be given to a limited extent because not well tolerated, the various nutritive preparations serve a useful purpose. Somatose has the advantage of being well tolerated, even in cases of acidity of the stomach, because it taxes the digestive functions to the least possible degree, since it consists of albumoses, or of predigested albumens, which undoubtedly have the same caloric value as that of native albumen. Both meat somatose and milk somatose are well borne by tuberculosis patients. These preparations should be prescribed in watery solutions, or as an addition to milk, coffee, cocoa, or soups. The author states in conclusion that the dietetic and hygienic treatment of this disease has given the most brilliant results in sanatoria.

Non-malignant Stricture of the Rectum.—Bacon (*Jour. Amer. Med. Assoc.*, September 16, 1899) says that gradual dilatation by bougies will not cure a true cicatricial stricture of the rectum, while it frequently increases the ulceration and may cause death from septic absorption or perforation of the bowel. The reason why it fails is that the excessive irritation which it sets up, causes a new formation of scar-tissue at the periphery of the old cicatrix. Forced dilation of rectal strictures with or without anesthesia was once a common practice, but the pelvic cellulitis and frequent deaths which followed caused the abandonment of this method of treatment. Internal proctotomy gives but temporary relief and the making of an incision in a septic field with no chance for free drainage is frequently followed by death. In complete proctotomy the incision is made through all the tissues including the sphincters and skin clear to the coccyx or sacrum. Here drainage is free and the operation is comparatively without danger, but as the wound heals by granulation the amount of scar-tissue is added to that preexisting and there is an additional danger of fecal incontinence. At one time it was hoped that strictures might be resected and the continuity of the gut reestablished by suture, but this operation was frequently followed by death due to the giving way of the sutures and the few

patients who recovered found that after one or two years the stricture had reformed. The rectum is buried in a bed of fibrous tissue so that the scar after anastomosis is constantly irritated. It therefore hypertrophies, and later contracts. Lateral anastomosis of the sigmoid into the rectum fails for the same reason. Bacon advises two operations which promise better results. If a stricture is at or above the levator ani muscle he performs a laparotomy and bends the sigmoid over the stricture and establishes an anastomosis between it and the rectum at a point below the stricture. After the fistula has become established the septum between the sigmoid and the rectum is clamped from time to time, the clamps being left in position two days or longer, until they cause atrophy of the septum. This is repeated until the strictured portion of the rectum has been thoroughly divided. If a stricture is below the levator ani, Bacon establishes a mucous fistula outside of the fibrous tissue of the stricture by passing an aneurism needle, threaded with heavy braided silk through the rectal walls around the stricture and back into the rectum above it. The thread is left as a seton and acts at the same time as a drain, so that there is no danger of infection. It remains in position two months during which time the bowel is washed twice daily with boracic-acid solution. The patient is then put under an anesthetic, the suture is removed, and a curved director passed along the fistulous tract. With a Paquelin cautery the stricture is divided. The success of this operation has been demonstrated in a number of cases.

Pulmonary Embolism Following Laparotomy.—BRACKETT (*Lancet*, July 29, 1899) publishes notes of a case of recovery after pulmonary embolism, the embolism occurring nine days after an operation for appendicitis. The anesthetic used was gas and ether. Respiration was not particularly good, and after the patient had been put to bed artificial respiration was used for twenty minutes. All went well for nine days and then the patient began to spit frothy bright red blood. There was no rise of temperature and no pain until two days later when vague pains were complained of in the right shoulder and side, shifting about from one place to another. Hemoptysis continued for seventeen days when further examination of the right side showed the presence of a moist pleurisy. Sleep from this time on was disturbed by severe night sweats. The pulse rose to 120 and the temperature to 102° F. On the following day an effusion took place into the pleural cavity and respiration was much oppressed. The aspiration of eighteen ounces of clear serum greatly relieved the patient. After removal of the fluid, the breathing, as heard at the inferior angle of the scapula, was markedly tubular. The temperature dropped to nearly normal. The hemoptysis gradually subsided and the right lung slowly returned to its normal condition. The attending physician was at first deceived into thinking that the lesion was a tubercular one. The question of ether-pneumonia was also considered, but the progress of the case excluded both diagnoses for that of pulmonary embolism, presumably from a clot formed at the time of operation, although at no time were there any sudden, urgent symptoms such as are usually seen under such circumstances. No special line of treatment was followed.

Aseptic Treatment of Abscesses.—NEVE (*Indian Med. Jour.*, August 16, 1899) thinks that in the treatment of abscesses surgeons have not made use of the best modern methods. The idea which has so long prevailed to postpone active measures until the last moment should be relegated to the past. His plan is to incise an abscess, break down all the divisions between the loculi with his fingers, and then rub the walls gently and thoroughly with gauze until the last swab shows no trace of pus or débris. The incision should not be too small. One should avoid making the incision close to any mucous surface or contaminating sore. When redressing, distension of the cavity with irrigating-fluid should be avoided. The incision should not be plugged as that favors the accumulation of blood or serum. It is important to remember that pus will not flow upward. In many cases primary union may be obtained by stitching the abscess. If any fluid accumulates it should be allowed to escape as soon as possible.

The Best Operation for Hemorrhoids.—STINSON (*Pacific Med. Jour.*, September, 1899) says that the best operation for hemorrhoids is performed as follows: The internal hemorrhoid is grasped with forceps and drawn well into view. A broad clamp is applied to its base pointing in the long axis of the pile. The clamp should be applied in such a manner that the portion remaining after excision shall suture conveniently. The pile is then cut away, and the open vessels separately ligated, and the edges of the mucous membrane accurately stitched with medium-sized catgut. One by one the piles are treated in this manner. No assistant is necessary and no speculum is used. The forceps themselves act as tractors and their pressure tends to control the hemorrhage.

THERAPEUTIC NOTES.

Diabetic Coma Relieved by Saline Transfusion.—OLIVER (*Lancet*, August 26, 1899) treated a patient in diabetic coma by transfusion of saline solution with the result that in a short time he was so far improved as to be able to walk about and take an interest in his surroundings although he was unable to return to work. This was the condition at the time of a former report (MEDICAL NEWS, vol. 73, p. 494) in August, 1898. By February, 1899, his thirst had again increased and he was passing five quarts of urine in twenty-four hours. There was considerable staggering due to incoordination. There was also considerable loss of muscular power, but sensation was unimpaired. On March 12, 1899, an attack of coma came on and the patient died in twenty-four hours. The result of the saline infusion was a lengthening of life free from coma for 243 days. Such a lucid period may be of tremendous importance to the patient and his family, if there are business affairs to be attended to.

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SATURDAY, NOVEMBER 18, 1899.

THE REAL DURATION OF TYPHOID FEVER.

CONSULTING physicians are continually meeting with cases of fever in which the diagnosis has been made that the patient is suffering from infection by the bacillus of Eberth, and that the entire malady and the continuance of high temperature is dependent on this cause. Most of these physicians know full well that in a majority of instances the history of a very prolonged attack of fever indicates that the patient is not suffering from typhoid infection but in a considerable proportion of cases from infection by the bacillus tuberculosis. Without doubt a very common error in clinical medicine is the mistake of diagnosing tuberculosis for enteric fever. Further than this, it not infrequently happens that a patient convalescing from enteric fever develops some complication which maintains a febrile movement, and yet is considered an ordinary typhoid case, when in reality an accumulation of pus in some portion of the body is the factor which is retarding his convalescence.

The question then arises, how long is it proper for a physician to consider that fever is dependent upon typhoid infection alone? In reply to this question it may be said that the maintenance of febrile movement beyond twenty-eight days should always cause the physician to look for some complicating condition, and while in a certain number of cases this may not be found, in a large proportion some additional cause over and above the pure typhoid infection will be discovered. It will be remembered that the average duration of typhoid fever is after all in the neighborhood of from twenty-four to twenty-eight days, and as time goes by it becomes evident that notwithstanding diminished virulence of infection, increased resistance and improved therapeutic measures, the duration of the disease does not seem to be affected. The longest case seen by the late Austin Flint was fifty-eight days, and Musser has recorded a case in which there were no complications, but the temperature did not reach normal for seventy-three days.

Our attention has been called to this matter by an article by Dr. Hawkins and Mr. Thurston in the London *Lancet* of October 14, 1899. In this article they report a case in which the fever lasted for a period of 114 days, the patient finally convalescing after a brief relapse. A very interesting part of the history of this case is that the patient suffered from a perforated intestine but recovered after an operation had been performed for the perforation. This recovery after operation makes the case well worthy of report, but we doubt whether the typhoid infection should be considered responsible for the maintenance of fever for a period of 114 days. Surely there is sufficient reason to believe that other causes were at work, and if these had not been present a normal temperature might have been reached after a much shorter period. Whether we are correct or not in the belief that in this individual instance the typhoid infection was not entirely responsible for the prolonged temperature, the case at least affords us an opportunity of once more reiterating the conviction that prolonged fever occurring in the course of an illness from typhoid infection should not be regarded lightly, but should lead to a most careful and thorough examination of the patient for the purposes that we have named. Sometimes when there is no outward manifestation of the development of suppurative foci, an examination of the blood will reveal leucocytosis which, in its turn, will give us

reason to believe that a deep-seated abscess or inflammatory process is responsible for the condition.

STATE AID FOR THE TUBERCULOUS POOR.

DR. PEPPER used to say, "There are times in a doctor's life when he feels much more like writing a check for a patient than a prescription." This sentiment finds an echo in the doctor's heart when there stands before him one who needs freedom from care and worry, longer hours of rest and the possibility of living under favorable climatic conditions, but who alas, is not financially able to secure them, and to whom no permanent benefit can come from any combination of drugs however elaborate and theoretically efficient it might be. Since the present irresistible trend of medical thought with regard to the absolute curability of pulmonary tuberculosis, when treated under favorable conditions, has set in, this feeling of sympathy for the tuberculous poor has been strenuously emphasized.

As was insisted upon by a number of speakers at the meeting of the Section on Medicine of the New York Academy of Medicine, October, 17th (see this week's issue of MEDICAL NEWS, p. 663) we have come to the realization that the tuberculous poor die simply because they are poor. If they had the necessary means to enable them to give up work early in the disease and devote themselves only to the care of their health, there is not a doubt that numbers of them could either be completely cured, or their affection arrested, and years of useful life assured to them and to the State. This is the sad aspect of the case as it presents itself to the physician. This it is that must unite medical men all over the country in the movement to secure State aid by the building of State sanatoria for the tuberculous poor.

There is scarcely a country in Europe at present in which there is not, we shall not say a sanatorium, but a number of them, in which patients suffering from tuberculosis yet unable to pay for treatment are cared for. We need them in this country. The present state of affairs is a standing disgrace to our boasted progressiveness. There is of course some excuse for us in the aspect of the question that was expressed so well by Dr. Flick at the recent meeting. In a monarchy only the rulers need to be convinced of the necessity for some public good of this kind, while in a republic the whole sovereign people must be persuaded, or at least their legislative representatives. As a matter of fact, however, the present condition of affairs is due not so much to dilatory legislators as to the fact that the medical profession, as represented by medical societies, has not been a unit in its demands for action. Here in New York State, for instance, concerted action on the part of the various "powers that be" in the profession might have secured ere this the necessary appropriation for the erection and the maintenance of a sanatorium for the tuberculous poor. There is the crying need; there is also the remedy. Let us hope that by the time the State Legislature convenes certain differences of opinion that exist at present among medical bodies in the State as to what class of patients should first be helped by sanatoria, may be adjusted. Precious time is being lost. This is only too plainly shown by the account of the good accomplished by the first year's work in the Massachusetts State Sanatorium. The Empire State owes it to herself not to be behindhand in this matter.

ECHOES AND NEWS.

Women Doctors Not Wanted at the Front.—Miss Ward, M.D. volunteered to go to South Africa as a physician, but the Marquis of Lansdowne, Secretary of State for War, sent her a letter in which he stated that he was not prepared at present to allow women doctors to join the forces in the field.

Death from Chloroform.—Two cases of death from chloroform are reported from Hong Kong. In one the Khrone and Sessemann regulating inhaler was used, and in the second a Skinner inhaler. In the first case not quite a dram of chloroform had been used, and in the second about ½ an ounce, so that in both instances death occurred early in the process of narcosis. In neither instance did autopsy reveal any efficient cause for the unfortunate result.

Hospital Assistants for the Boers.—While American women in England and America are fitting out a hospital ship for the care of the British and Boer wounded who may reach the coast, a society of French women has organized a field hospital at the cost of $2500, which left Marseilles for Delagoa Bay on the way to Johannesburg November 6th. Subscriptions for the Boer wounded are supplying ample funds in Paris for the equipment of additional hospitals. It is said that large numbers of medical students are setting out from Paris for the Transvaal.

An Army Medical Chest.—An excellent surgeon's kit has been devised by Major George E. Bushnell, Assistan Surgeon-General on the staff of Surgeon-General Stern-

burg. It has been found especially useful in the war in the Philipines, where numbers of small bodies of men are detailed on special expeditions or for garrison duty in out-of-the-way places. The kit is contained in a strong chest, two feet long by fourteen inches deep and wide, which one man can carry anywhere. Of these handy portable outfits for field service 150 sets are being made to send to Manila for use in the active and divergent operations of our troops.

Big Death-rate in Chicago.—The weekly bulletin of the Health Department says: "It is evident that 1899 will rank among the most murderously epidemic years." The bulletin adds that epidemics of contagious diseases, especially diphtheria and scarlet fever, have been more prevalent and more fatal than at any time since 1885, and the deaths among the aged, those over sixty, are largely in excess of the average. This latter, it is said, is due to the prevalence of influenza in the early months of the year, but the increase of diphtheria deaths is attributed to what the bulletin styles "an unaccountable neglect of the antitoxin treatment."

Deaths Not Due to Vaccination.—The State Board of Health at Albany reported on November 8th concerning the deaths of two children, one at Brewsters near Newberg, the other at Geneva. These deaths were said to be the results of compulsory vaccination. It was found that their deaths were due to the neglect, ignorance and filthy habits of the parents, and failure on their part to carry out the instructions of the physicians who performed the vaccination. One child died of tetanus, the other of "blood poisoning." The parents of one child failed to remove the soiled bandage and kept piling others on the arm until no less than seven were counted.

Epidemic of Typhoid at Lexington, Ky.—Nearly forty students of Kentucky University, located at Lexington, have typhoid fever, and it has become necessary for the faculty to take decided steps toward checking it. The students have been sent to the Good Samaritan Hospital, but since there is no more room at that institution it has become necessary to care for them at their boarding-houses. Two students have died. The cause was at first attributed to the water, but now some members of the faculty believe it was due to milk from cows fed on distillery slop. President Cave says the epidemic has been checked, and there is no further cause of alarm, and that every one of the patients is now rapidly improving.

Beer Consumption.—A writer in the *North American Review* declares that a great deal of beer is consumed in order to satisfy a craving for the elements which are eliminated from wheat in the making of white bread. However this may be, the large amount of this drink which is disposed of would indicate something more than an appetite merely for alcohol. In Germany, during 1897 1,383,700,000 gallons of beer were consumed; 1,192,000,000 gallons were drunk in Great Britain; 180,000,000 in France; and about 90,000,000 in Russia. Estimating "per head," it is reckoned that 36 gallons are drunk in Belgium, 32 in Great Britain, 25 in Germany, 21 in Denmark, 12 in Switzerland, 10 in the United States, 9½ in Austria-Hungary, 9 in Holland, 5 in France, 3½ in Norway, 2½ in Sweden and 1 in Russia.

A Rat-trap for Plague-infected Rats.—In view of the continual danger from the plague that exists, the following notice from United States Consul Heenan at Odessa seems of practical interest: "I saw the other day a curious device attached to the mooring-rope or cable of a steamer which was loading at this port (Odessa). The cable was run through a piece of iron pipe about a foot in length, and welded on the end of the pipe was a flange or funnel which looked like the end of a trumpet, with the wide end facing the ship. The iron pipe was stuffed with oakum, to prevent it from slipping and also to prevent rats from passing through it. This novel construction was quite close to the ship. The Russian authorities furnished these appliances and obliged all ships to use them whenever they came from a port infected with the plague, in order to prevent the rats on the ship from coming on shore. These devices are attached to each cable by which the ship is moored. In addition to this precaution, the master of the ship is obliged to take down his loading stages every night and erect them again the following morning, in order to prevent the rats from coming on shore during the night."

Death-rates in Cities and States.—According to records for the year 1898, compiled by the Marine Hospital Service from official reports, the most healthful town in the United States was Millerstown, Pa., where the death-rate was less than 1 per 1000 of population. The most unhealthful town was Liverpool, New York, where the death-rate was 44.17 per 1000. The most healthful city is Homestead, Pa., which had a death-rate of 2.70 per 1000. Of the very large cities the most healthy was Cleveland, Ohio, where the death-rate was 13.63. The most unhealthful large city was New Orleans, of which the death-rate was 26.91. Other large cities and the respective death-rate mentioned in the official record are: New York, 19.28; Boston, 20.09; Baltimore, 19.10; Washington 20.74; Chicago, 14.08; St. Louis, 14.28; San Francisco, 19.41. The twin cities St. Paul and Minneapolis had a death-rate of only 9.16. The most healthful state seems to be Nebraska, where the average death-rate of the cities and towns was only 6.24. It is noticeable that the most healthful conditions are found in the Northwest and the region between the Mississippi River and the Rocky Mountains. The death-rate in South Dakota was 7.36; in Minnesota, 9.08, in Wyoming, 8.33; in Iowa, 8.83; and in Colorado 10.86. In California, where the climatic conditions are supposed to be favorable to health, the death-rate was 16.26.

The Bubonic Plague.—The march of the plague goes steadily on. In India for the week ending October 7th the reported deaths reach a total of 6727, or over 1000 more than the total of the previous week. The Bombay Presidency is still the seat of the disease. As has been

previously announced, the disease has begun to attack the Europeans; on October 12th there were nine Europeans in the hospital suffering from plague. Colonel Hay, one of the medical officers on plague duty in Poona district, has recently died of the disease, and Mr. Bromley, the prosperous dentist of Poona, has been stricken down. For the week ending October 26th, 89 fresh cases of plague, with 72 deaths, were reported in the Island of Mauritius. The report that 10 cases of plague had been discovered at Lorenzo Marquez, Delagoa Bay, has been officially confirmed. The suspicious cases reported from Santos and San Paulo, Brazil, have been confirmed as genuine cases of bubonic plague. There is no longer any doubt, therefore, that the plague has actually reached the American continent. The filthy condition of Santos offers no hope of the disease being suppressed. The plague at Alexandria may be considered as practically at an end. Whether or not this report has been put forth for the purpose of clearing the way for the great inrush of winter visitors to Egypt, it is certain that the plague has run a mild course, only seventy-one cases in all having been reported. The sanitary authorities under Sir John Rogers have achieved a remarkable success at Alexandria for which the civilized world owes a debt of gratitude. News of the plague is evidently being suppressed at Oporto. Four fresh cases reported October 24th give the latest information from that quarter. Late reports from Algeria announce that the plague has appeared at Philippeville and Bougie, where the Government is taking active measures to localize it.

MEDICAL MATTERS IN NEW YORK.

DEATH FROM BERI BERI — A DINNER PARTY AT DR. POLK'S—DRUGGISTS WHO MAKE SUICIDE EASY—SMALLPOX IN BROOKLYN — DEATHS OF DRS. BLEEKER AND M'CREERY — ST. JOHN'S GUILD—THOUSANDS LEFT TO CHARITY — A MAN WITH TWO HEARTS—AMERICAN PERSONNEL OF THE HOSPITAL SHIP "MAINE."

NICHOLAS FERNANDEZ, the second cook of the British steamship "Needles," lying at Erie Basin, Brooklyn, died on November 9th, of beri-beri.

Among the pleasant and interesting occasions that are gracing the social functions in the profession at the opening of the present season was the dinner recently given by Dr. William M. Polk at his residence to Dr. Friedrich Kraus, Jr., of Carlsbad, Germany. Twelve covers were laid; and the evening passed pleasantly with the narration of many Carlsbad experiences and the consumption, among other beverages, of bottled American waters.

President Murphy of the Board of Health is seeking to enforce the State law relative to the sale of poisons. If the Board has no power under the present law to proceed against druggists who make suicide easy by failing to ask questions of poison purchasers, Colonel Murphy has decided to ask for the adoption of a corporation ordinance that will cover the case. Suicides are becoming unduely prevailent in this city, and the manner of self-destruction is usually that of swallowing poisons bought at drug-stores.

Mary Loftus, a negress, employed as a servant at 58 Downing street, Brooklyn Heights, was removed to North Brother's Island on November 11th suffering from smallpox. She is the sister of a negro man who was employed by a Fulton street dental firm to give out handbills in front of the place of business. This negro had variola for two weeks before the Health Department knew of it, and all that time he continued at his work of giving out bills to the shoppers who thronged by him. He communicated the disease to his relatives; Mary Loftus is the eighth victim. She has been moving about in the neighborhood where she was employed, conversing with other servants and visiting the shops. The Health Department is maintaining a careful watch to prevent further speading of the disease.

Dr. Edward Bleeker died at his home in Whitestone, Borough of Queens, on November 5th. He was born in Albany in 1844, and was a direct descendant of Yan Yancy, the first Recorder and second Mayor of Albany. He studied for one year at the Albany College of Medicine, after which he entered the College of Physicians and Surgeons in this city, from which he was graduated in 1865. He at once began service at the State Barracks at Albany, where several thousand wounded soldiers were quartered. He was for twenty-five years a member of the Whitestone Board of Education, and in several other ways manifested his good qualities as a citizen. He was one of the promoters of the Flushing Hospital, and the first President of its staff physicians.

Dr. John G. McCreery, forty-nine years old, died at his home in this city on November 10th. He was graduated from Bellevue and the Royal College of Surgeons, London. Besides being a well-known physician he was a Catholic of prominence and a member of the University Club. He was a visiting surgeon at St. Vincent's Hospital.

The Forty-third Annual Meeting of St. John's Guild was held on November 8th. The two most important events of the past year were the building of a new floating hospital and the erection of a four-story structure at the Seaside Hospital. During the season 62,672 women, children, and babies, enjoyed excursions upon the boats, and 3799 patients were treated. For the first time in the history of the Guild patients from Harlem and from Brooklyn were received on the floating hospitals to the number of over 13,000.

By the will of Henrietta Martin of New York $50,000 are bequeathed to charity. Among the institutions benefited are St. Luke's Home for indigent Christian females, the West Side Day Mission, and the Home for the Relief of the Destitute Blind. By the will of John O'Brien, the New York Banker who died recently, the New York Foundling Asylum receives $2000, St. Vincent's Hospital $2000, and St. Joseph's Home for the Age $1000.

Some time ago a newspaper man was complimented in this column upon what appeared to be a rather brilliant flight of fancy on the subject of "a man with two hearts." The present writer is now able from his own observation to pay this newspaper man a still higher compliment. The statements made were all within the facts. Probably no one can appreciate more fully than can a

newspaper man the value of this latter compliment. The other day an elderly negro called on the writer and wanted to exhibited himself. On the left side of his chest the usual first and second heart sounds were heard. Then the writer placed his hand over the left precordial region and putting his stethoscope on the right side he heard a first and second sound quite distinct from that felt on the left side. Then the negro proceeded to juggle with his "innards" until a tumor almost the size of a quart measure appeared in the left inguinal region. The writer placed his stethoscope over this region and heard distinctly a first and second heart sound. Then the negro manipulated his right side in the same manner and a tumor appeared in the right inguinal region. The writer put his stethoscope over this region and again heard a first and second heart sound. The examination having transpired an evidently anticipated emolument was bestowed. Any colleague who is willing to act in like manner would, no doubt, have an opportunity to examine this interesting freak, whose name and address is William King, 53 Fulton street, Brooklyn. Possibly the teratologist may be able to explain this odd state of affairs. Mr. King has already arranged for the examination of what remains after his soul has left its physical habitat; and in the course of time we may expect a scientific paper of no little interest upon this case.

The steamship "Mesaba" of the Atlantic Transport Line sailed on November 12th, having on board the first instalment of the American personnel for the hospital ship "Maine," which the Association of American Ladies in London, represented by Lady Randolph Churchill, is sending to South Africa. In the party are three surgeons—Drs. G. E. Dodge and H. H. Rodman, both of this city, who have been assistants of Dr. McBurney at Roosevelt Hospital, and Dr. C. H. Weber of Philadelphia, whose appointment was warmly recommended from personal knowledge by Dr. John S. Billings of the United States Army. They are in this party five nurses, Misses Hibbard, Ludekins, Manly, McPherson and McVean. The surgeons have taken with them an ambulance selected by General Francis V. Greene as the latest and best product of American army experience. It is sent as a gift of Mrs. Whitelaw Reid, to whom Lady Randolph Churchill and her English associates have intrusted the work of selecting the American personnel for the hospital ship. This ambulance was constructed after designs made by Major E. T. T. Marsh. It will accommodate four wounded. At the instance of Mrs. Reid, the Secretary of War has granted leave of absence to Major Julian M. Cabell of the Medical Department, in order that he may accept a position as surgeon on the "Maine." About thirty more nurses—a number of whom will be male nurses — sail for England on November 18th. Two apothecaries will also be sent. It is reported from London that Colonel F. Henderson, late of the Second Life Guards, has been appointed chief medical officer in charge of the hospital ship "Maine."

The Health Department submits the following report of contagious diseases for the week ending November 11, 1899: Measles, 262 cases, and 10 deaths; diphtheria, 248 cases, and 37 deaths; laryngeal diphtheria (croup), 11 cases, and 4 death; scarlet fever, 109 cases, and 6 deaths: smallpox, 1 case; chicken-pox, 15 cases; tuberculosis, 172 cases, and 148 deaths; typhoid fever, 56 cases, and 17 deaths; cerebrospinal meningitis, 9 deaths.

MEDICAL MATTERS IN PHILADELPHIA.

[From Our Special Correspondent.]

DR. T. M. ROTCH ON INFANT-FEEDING—PHILADELPHIA ACADEMY OF SURGERY—DR. MORDECAI PRICE ON THE MORTALITY IN APPENDICITIS.

PHILADELPHIA, November 13, 1899.

DR. T. M. ROTCH of Boston addressed the Philadelphia Pediatric Society at its last meeting, held November 10th, on the subject of "Some Difficulties in Prescribing and Modifying Milk for Infant-Feeding." The speaker first dwelt upon the importance of milk modification in the case of the individual child, for the reason that different infants have such widely varying degrees of digestive powers that one fixed modification is unsuited in many instances, to the individual case. The common statement that milk must be withheld from the child in many diseases to which infancy is prone was, according to Dr. Rotch's experience, wholly incorrect; and, on the contrary, correctly modified milk was thought to be the most suitable food in nearly all cases, not excepting even summer diarrheas.

Improper and inexact methods of modification were held responsible for a great amount of harm, and to these causes many practitioners may attribute their lack of good results. The difficulties which the physician has to meet with in the home modification of milk are serious ones. The milk, as it is delivered to the house of the consumer, is often diluted with water; the cream of different milks, or of the same milk on different days, may contain varying percentages of fats; a 5 per cent. cream from different cows used to make 2 per cent. fat mixtures may thus make the mixture range from 1.45 per cent. to 2.66 per cent. of fats. If the physician cannot personally make the proper modification, and this is obviously impossible in the majority of instances, the mother or the nurse may add a little more cream than the formula directs, "so that the baby may not be starved," as she is wont to express it. This "little more" may mean an increase of from 4 to 10 per cent. of fat in a mixture containing 20 fluid ounces. Regarding the presence of micro-organisms and their products in milk, the speaker declared that he did not believe that heating milk in which bacterial toxins have already developed destroys these toxins, and therefore such milk is not fit for use.

Referring to the various sources of the milk-supply, Dr. Rotch remarked that "contracted milk," from a large, properly conducted dairy, is the safest to employ, most of the epidemics arising from the use of poor milk having been traced to a small herd of cows, or in many instances to a single cow. Milk and cream should be analyzed by experts before being pronounced fit for use, and physicians should seek to educate the

people to recognize the value of this procedure, and to pay the increased cost of certified milk, for the sake of their children's health and welfare.

At the conclusion of his address Dr. Rotch was tendered a reception by the Society, which was largely attended by representative medical men of this city and environs.

At the last meeting of the Philadelphia Academy of Surgery, held November 6th, Drs. H. Augustus Wilson and J. T. Rugh reported two cases which they believe to be unique in the literature of orthopedic surgery, each being an instance of an anomalous spinous process of the seventh cervical vertebra, which articulated with the left scapula. Both cases were observed at the Jefferson Medical College Hospital within two weeks of each other. The first case, that of a girl of seven years, was supposed to have a birth-injury, followed by signs of pressure paralysis, the general appearance being that of torticollis; the left arm was 1½ inches shorter than the right, and could not be raised over the head; a diagnosis of anchoring of the scapula to the spine was made in this case. The second case, a girl of eighteen, presented the following physical signs: the left shoulder was higher than the right, and the left scapula was 1½ inches nearer to the spine than the right, motion being limited as in the preceding case. Both cases were operated on by Dr. Rugh, and the supernumerary body removed though an incision made over its site. The bone removed from the second case was two inches in length, by 1¾ inches in circumference; it had an articular surface at the scapular end, but was attached to the spine by an osseous union, apparently causing a division to the left of the seventh cervical vertebra; there was, however, evidence that at some preceding period there had been a fibrous union at the spinous end of the bone. The specimen removed from the first case was 1¼ inches long, by 1⅛ inches in circumference and showed at the spinal end two tuberosities having articular surfaces, the scapular end possessing a single articular surface; the anomalous processes seemed to occupy the place of the regular spinous processes, there being no sign of the latter's presence in either this, or in the other case. The results of the operation were most favorable in both instances, and at the present time, by the use of gymnastic exercises, the normal motion in both patients is almost entirely regained.

At the same meeting, Dr. Joseph M. Spellissy reported a "Case of Removal of the External Two-thirds of the Gasserian Ganglion, with Preliminary Ligation of the External Carotid Artery." The patient had suffered from intense neuralgia for the past nine years, for the relief of which the infra-orbital nerve had been removed four years ago, and also the inferior dental nerve at a later period; neither of these operations afforded permanent relief from the pain. The operator, after seeing such severe hemorrhage from the middle meningeal artery during the operation for Gasserion ganglion removal, decided to ligate the external carotid artery, as a preliminary to the intracranial maneuvers. This procedure accomplished, a skin flap was made reaching down to the zygoma, in order to reach as near the base of the skull as possible. The external two-thirds of the ganglion was dissected out, cut, torn, and curetted away, no hemorrhage from the middle meningeal being encountered. A little fluid kept collecting in the field of the operation, but nothing approaching in nature a hemorrhage was met with. The double operation occupied about two hours, ether being used. The flap was carefully kept warm during this time, and showed no evidences of sloughing, union by first intention being secured. As a result of unavoidable division of the motor branch of the fifth nerve, unequal action of the lower jaw was noted as a sequel to the operation. The patient declares that there has been but a single twinge of pain since the time of the operation, the middle of last July.

Dr. Mordecai Price, at the last meeting of the Philadelphia County Medical Society, held November 8th., delivered an emphatic argument in favor of the surgical treatment of appendicitis, under the caption, "Treatment of Appendicitis, and Its Great Mortality." Among the aphorisms voiced preliminary to the speaker's consideration of the operative technic, were, among others, of equal emphasis: "Medical treatment does not cure genuine appendicitis;" and "The recovery of a case through rupture of an appendicial abscess through the colon, or through the bladder, is an accident, and does not form a basis for treatment." As to the method of operation, Dr. Price preferred to use a short, oblique incision, parallel to the crest of the ilium; the appendix should be amputated, if possible about ¾ of an inch from the head of the colon; if an abscess was found it should be ruptured with the point of the finger, and thorough irrigation of the abscess cavity, and of the general peritoneal cavity, practised, with plain, sterile water. The view was expressed that the morality-rate of the "younger" surgeons of to-day increases as they deviate from the rule of Tait, who, by the free use of boiled water in flushing out the abdominal cavity, secured the lowest average death-rate attained by any abdominal surgeon. Gauze drainage, removed small pieces at a time, should be used, and the wound allowed to heal from the bottom. After the operation irrigation should not be performed, but in the event of pus forming the wound must be explored and new drainage introduced. Dr. Price's statistics included 111 cases, of which 2 were fatal. Of the 109 recoveries, in 1 case a slight hernia followed the operation. Dr. Price in closing expressed his belief that the mortality-rate of the average operator (7 to 20 per cent.) was entirely too high, attributing this to faulty technic; he advised, as essentials for a better mortality-rate the following: free movement of the bowels before operation, thorough irrigation of the abdominal cavity, gauze drainage, and intelligent after treatment.

The total number of deaths in this city for the week ending November 11th was 314, this being a decrease of 67 from those reported last week, and a decrease of 83 from the corresponding week of last year. Returns of infectious disease show that there occurred during the week 36 new cases of enteric fever, with 8 deaths; 68 cases of scarlet fever, with 4 deaths; and no less than 117 new cases of diphtheria, with 24 deaths.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

EFFECTS OF VERATRINE UPON THE MYOCARDIUM—SPASMUS NUTANS—LECTURE BY DR. ADAMI—APPROPRIATION BY CHICAGO CITY COUNCIL FOR MEDICAL INSPECTORS—PROVIDENT HOSPITAL REPORT—VITAL STATISTICS—COLONY FOR EPILEPTICS—NEW LABORATORY FOR COOK COUNTY HOSPITAL—SANITARY ASPECTS OF DRAINAGE CANAL—CHICAGO MEDICAL SOCIETY—FACE PRESENTATIONS—SIMPLE HYPEREMIA AND INFECTION OF THE BREAST IN CHILDBIRTH — OVARIAN CYST COMPLICATING LABOR.

CHICAGO, November 11, 1899.

AT a recent meeting of the Chicago Society of Internal Medicine, Dr. S. A. Matthews presented a paper on the effects of veratrine upon the myocardium. First, he dealt with the effect produced by this agent upon the irritability of the heart-muscle; second, its effects upon the contractility of the heart-muscle; and, third, its effects upon the circulation produced by the changes in the irritability and contractility of the myocardium.

DR. I. A. Abt followed with a paper on spasmus nutans, in which he reported two interesting cases, and dwelt upon its confusion with allied diseases, *e. g.*, eclampsia nutans. He referred to confusion of nomenclature, and gave the reasons for retaining the term spasmus nutans. The etiology, prognosis, diagnosis, and treatment were referred to at length.

On November 29th the annual lecture before this Society will be delivered by Dr. J. G. Adami of Montreal, Canada.

At the last meeting of the Chicago City Council $4750 was appropriated for the employment by the Health Department of ten medical inspectors at a salary of $75 a month, and ten disinfectors at a salary of $83.33 a month. This was passed as an emergency appropriation upon the recommendation of the Commissioner of Health.

At a recent meeting of the Board of Trustees of the Provident Hospital, the annual report showed that 415 patients had been received during the last year, 183 of whom were colored and 232 were white.

According to the bulletin issued by the Health Department last week, the number of deaths from all causes (381) is the fewest since the week of December 10, 1898. However, the situation is not at all satisfactory. The summary of deaths by ages, sexes, and causes shows a continued excess of diphtheria, scarlet fever, measles, and whooping-cough, and the number of reported cases of these indicates their almost epidemic prevalence. Their contagion is more widely spread than at any time since 1885, as shown by the records, and there is reason to fear that the same is true of smallpox throughout the country generally. This latter disease has prevailed extensively longer than a year in so mild form as not to attract enough attention to cause the usual preventive measures to be enforced. The result has been the sowing of the contagion broadcast, and it only awaits favoring conditions to develop an epidemic.

At the meeting of the Conference of State Charities, it was urged that a strong committee go before the next Legislature with the statement that the only provision Illinois makes for her epileptics, suffering from a malady which almost renders them social outcasts, is the insane asylum. Here the conditions of their commingling with the feeble-minded work injury both to the epileptic and the insane. The request will be for an appropriation to purchase 1000 acres of land for the purpose of a colony.

A new and well-equipped laboratory in a separate building in connection with the County Hospital has been vigorously advocated by one of the County Commissioners, who estimates the cost of the building at $15,000. He will endeavor to have it constructed next year if the county finances warrant it. It is well known that the present laboratory is too small and too poorly equipped to meet the needs of so large a hospital.

At the last meeting of the Physicians' Club of Chicago the drainage canal was the subject for discussion. The sanitary aspects were dwelt upon by Commissioner Reynolds, and among other things he said that analyses of water in the Illinois River have established that there will be no pollution of the river following the opening of the drainage channel. Concerning the effect of pollution of the water-supply upon mortality statistics, he said the analyses which the Health Department has been making for the last two weeks have shown that increase in mortality records follow the pollution of the water with mathematical regularity. The Physicians' Club adopted a resolution commending the plan for medical inspection of school children.

At a meeting of the Chicago Medical Society, held November 8th, Dr. Gustav Kolischer read a paper on modern treatment of face presentations. The diagnosis and prognosis were dwelt upon at considerable length, and then the indications for interference, preparatory measures and operative delivery.

LITERARY NOTES.

ALEXANDER THE GREAT A SUFFERER FROM TORTICOLLIS.

IT has always been a subject of remark that practically all of the statues and busts of Alexander the Great which have come down to us represent him with his head thrown slightly back and partially rotated, his eyes turned upward. The traditional and conventional explanation for the attitude has been that the young conqueror, satiated with earthly glory, was represented by the many sculptors to whom he gave sittings as gazing heavenward as if sighing for other worlds to conquer. Professor Benjamin Ide Wheeler of Cornell, whose "Life of Alexander" running at present in the *Century* is attracting deserved attention, points out, in one of the recent contributions, that the attitude of Alexander in all these reproductions is exactly that of a man suffering from torticollis, and that there are good historic grounds for the belief that Alexander was a sufferer from that affection.

Julius Cæsar is said to have suffered from epilepsy. French physicians are of the opinion that there is enough evidence in Parisian tradition to justify the belief that

Napoleon also suffered from occasional attacks of the mal comitial. Now comes evidence that Alexander was a sufferer from a nervous affection probably grafted, as torticollis so frequently is, upon a strong nervous heredity. Here is material for an essay on genius and a degenerate nervous system.

DR. WYETH'S LIFE OF GENERAL FORREST.

At the beginning of September Harper and Brothers issued this interesting excursion in biography by our well-known New-York surgeon. Some chapters of it have already appeared in *Harper's Monthly*, and have attracted no little attention. Dr. Wyeth writes most sympathetically, and with a story as full of thrilling incident as is the life of Forrest, makes, as might be expected, an extremely interesting book. The great cavalry leader of the South deserved the tribute of a special biography here accorded and has been fortunate in the biographer fate allotted him. Now that North and South are drawing closer together, and the younger generations stand shoulder to shoulder once more, the tale of the capture of Fort Pillow, with the unfortunate incidents that followed it, as told by Dr. Wyeth, is especially timely. The so-called massacre, after the surrender, especially of the colored troops fighting in the Northern cause, has always seemed in history an awful blot upon the fair honor of Southern chivalry, and a stain upon the military glory of the brave Southern commander. There was an unfortunate set of circumstances that led to the killing of brave men. In the moment of excitement after the successful assault absolute restraint was impossible. The invitation to surrender had been categorically refused. An excited soldiery went farther than was necessary with the battle, but massacre after surrender there was none, as no surrender was offered.

LONDON DOCTORS AND THEIR WORK.

The *Eclectic Magazine* for September contains a very interesting article on this subject that originally appeared in the London *Temple Bar Magazine*. Some of the personal bits in it are decidedly quotable. For instance, Sir James Paget is reported to have said to a young man who came to him for advice as to how to get a consultant practice in London: "Put up your brass plate and then go away for five years," a piece of advice quite as applicable and practicable now as then, and, alas! painfully near the mark.

A distinguished physician is quoted as having recently complained that there were three prescriptions which he wished almost daily to give, but which no living chemist could compound: (1) Sunshine for those who cannot go abroad. (2) Rest for those who need it and cannot get it. (3) Work for those who are ill for want of it.

London doctors are evidently much more rushed than their brethren on this side the water. Some of them it seems have to make the change from morning to evening dress while riding about in their carriages. One doctor complains he has had two dress suits stolen from his carriage in three months. A physician, the occupant of a carriage that was run into by an omnibus, was disclosed dressed all in white. There was danger of his being apprehended as not of sane mind until he explained that he was on his way from Euston station to Park Lane, and was dressing for a dinner party.

THE "SCIENTIFIC" FRANKLIN.

No side of the many-sided Franklin is more interesting than the one depicted by Paul Leicester Ford in the September *Century*,—Franklin as a scientist. Few Americans realize what a large figure in the science of his time and of all time our Franklin was. We are apt to think of him as a printer who dabbled in many things more or less scientific, and by a fortunate accident discovered the identity of lightning and electricity. As the brilliant theorizer in science, anticipating a number of discoveries, as the acute observer with a passion for proving things experimentally, his countrymen do not know him. He was the first typical American inventor, and is a worthy type of the race in much more than that. There is a characteristic anecdote of his carrying a partially hollow cane filled with oil in order to be able to test in various places during his travels through England the effect of oil upon troubled waters.

SOME PRAIRIE CHUMS.

Dr. Woods Hutchinson, at present in London, and serving as correspondent of the MEDICAL NEWS, has an interesting article with this title in the September *Contemporary* (of London) that is written in the sympathetic vein so modish now in books on animals. We venture one quotation from it: "Like ourselves all the animals are beautiful at least once in their lives, in the first days of their existence, and this is true of even such unpromising specimens as the wolf, the pig, and the donkey." The article is interesting, especially as showing that an ardent advocate of animal experimentation as Dr. Hutchinson has always consistently been, may not be lacking in sympathy for animals, though it does not degenerate into maudlin sentiment.

PATHOLOGY IN WORKS OF ART.

Some years ago Professor Charcot of Paris pointed out that the pictures from medieval times representing people "possessed by the devil" very often really depicted patients in typical hysterical attitudes. Copies of numerous works of art in which he was able to demonstrate this fact adorn the anteroom of what used to be his clinic at the Saltpétrière. A new feature of pathology in art has been taken up by a German. Dr. C. H. Stratz points out some curious symptoms of disease in types represented in works of art. He finds that Botticelli's "Venus," in the Uffizi at Florence, for instance, is suffering from consumption, and should not be riding across the sea in an open shell without clothing.

This presents a new and comparatively unworked field to the pathologist. Shall we call the new branch of science historical or artistic pathology?

Dr. Manges, Professor of Medicine at the New York Polyclinic.—At the last meeting of the Faculty, Dr. Morris Manges was chosen to fill the Chair of General Medicine left vacant by the death of Dr. Page.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

SMALLPOX FOR SIX MONTHS IN ENGLAND—SUICIDE OF A LEPER—FORGOTTEN FRACTURE OF THE SKULL—BRITISH RED CROSS SOCIETY—VARIATIONS IN LONDON WATER-SUPPLY ANALYSES—MASTER TOMMY ATKINS DOWN WITH SCARLATINA—SIR WM. MAC CORMAC TO GO TO SOUTH AFRICA—LABORATORY MEETINGS OF PATHOLOGICAL SOCIETY—COST OF PHYSICIANS' MOTOR CARS—OPENING OF LIVERPOOL SCHOOL OF TROPICAL MEDICINE—$3,500,000 FOR SANITARY HOMES IN LONDON—PROFESSOR SCHAEFER'S ORATION AT EDINBURGH—GAS-POISONING BY LEAKAGE FROM GASOLIER.

LONDON, November 5, 1899.

THE epidemic of smallpox at Hull, the chief seaport on the northeastern division of the English coast, which began last spring has been smouldering in a most astonishing manner. It was originally imported in the crew of a Portuguese vessel, and the first cases were of such a mild type, that a number of people were exposed before the nature of the disease was recognized. All infected cases were promptly isolated and a most rigid system of inspection established. Yet the number of individuals exposed must have been much greater than originally believed, for no less than 300 cases have now been notified since the outbreak six months ago. As 36 new cases were reported last week and the Sanitary Committee of the Council has resolved to add two additional blocks to the hospital and a medical officer and four supplementary nurses, it looks as if the end of the trouble was not yet in sight. The only redeeming feature is that the epidemic has been extremely mild in character.

A death of peculiar pathos, even to our much-worn sense of the tragic, has recently occurred. A man named Edwards committed suicide by throwing himself from the window of a poor-house infirmary. He had been a sailor, who after long residence abroad, some six years ago returned home in a well-developed stage of leprosy. The poor fellow had become well known to the medical students and visitors of London, as he had exhibited himself once a month at University College Hospital almost ever since his return, as their "stock" case of leprosy. It must, I think, have struck all of us with wonder who have seen these necessary, but pitiful, exhibitions of this pathological rarity, that more of the poor creatures do not choose this means of escape from the prospect of awful disfigurement and a lingering death. The jury mercifully returned a verdict of "suicide whilst of unsound mind." But put the soundest of our minds in his circumstances and we doubt if the result would differ much.

An interesting illustration of the way in which even severe injuries may not only be completely recovered from but totally forgotten, was afforded in the death of a dock-laborer at Southwark this week, upon whom, on account of the suddenness of his demise, an autopsy was ordered held by the coroner. On laying forward the scalp a depressed fracture was found running five inches along the vertex of the skull. None of the immediate relatives of the deceased appeared to be able to account for it, until a brother was found who remembered that twenty-five years before, the deceased had been trapped between two vans and rather severely injured. Fortunately the fracture was evidently of long standing and there was an obvious cause of death in the condition of the heart-valves. For an injury of that degree of severity to have left no symptoms whatever and to have been apparently entirely forgotten by all but one relative of the deceased is an interesting illustration of the recuperative powers of the human frame.

The British Red Cross Society is holding meetings for the purpose of raising funds for sending out medical men and trained nurses to the Cape. Its success, however, seems to be hampered by the charges, to which we alluded in a former letter, brought against the management of the Society by one of its founders, and especially by proposed absorption into the Medical Department of the War Office, thus making it a mere Government bureau. One of the chief sources of the strength of the Society in former years has been the direct reliance upon individual good feeling, its freedom from the numbing influences of red tape and the rapidity with which it could both raise money, despatch organizers, and secure supplies, either upon the spot, or by shipment, as the need of the case demanded, by its plentiful supply of cash subscriptions

The London County Council has at last very properly taken up the question of the systematic analysis of the London water-supply. As it stands at present analyses are made by Sir E. Frankland, on behalf of the Local Government Board, but only about once a month. The chemist of the County Council makes his reports daily, while the chemists employed by the companies themselves make their reports once a week. The variance between these three series is something extraordinary, those by the companies' own chemists being naturally far the most favorable to the company. A brief investigation let the cat out of the bag, as to this divergence, as it was found that the companies' chemist, were careful to draw the samples from the clear wells just beyond the filter-beds, while the other samples were taken from the mains in various parts of the city. The Council proposes to attempt a uniform examination by one single authority, and will suggest to the Local Government Board that they should take charge of this and that samples should be taken from various parts of London, without previous warning and at least once a day.

A whimsical commentary upon the youth of some British regiments is furnished by the fact that one company of a regiment, in garrison in a northern town, was prevented from leaving with the rest of their battalion for South Africa on account of a violent outbreak of scarlet fever among them, It will be remembered that much stress was laid upon the folly of sending regiments of mere boys to run the gauntlet of tropical diseases in the discussion at the late British Medical meeting. And certainly if young Master Atkins has made so little progress toward adult immunity as to fall a victim to scarlet fever, one can only wonder what he will do when he is exposed to cholera, the plague or malaria. It is interesting to note that the recommendations of medical men, in regard to

the much higher resisting-power of well-grown adults, has formed a basis of the present English army scheme. This, instead of allowing a comparatively small number of men to enlist for a minimum of 14 years or a maximum of 28 years, in the hope of keeping a small proportion of seasoned soldiers at the head of a huge ruck of raw lads, is now upon the basis of seven years' active service, followed by 14 in the reserve, in civil employment. The intention of this plan being, first, to pass a much larger proportion of the fighting strength of the community through the ranks, and in the second place to do the garrison and police work with the younger troops, and have the older seasoned men to fall back upon at once in case of hostilities upon a serious scale. The system has received its first practical test in the recent calling up and despatch of the reserves, and it has evoked nothing but praise for the quality of the sturdy, vigorous manhood which has responded to its country's call. Medically and physically the system is probably one of the best that has yet been devised, although perhaps from a purely physical point of view, in promoting the highest development of the mass of the community both as athletes and as soldiers, it is perhaps inferior to conscription.

No more striking illustration has yet been given of the strong hold, which even this little war has taken upon the feelings of the English people, than the announcement by the Under Secretary for War in the House of Commons last night, that Sir William MacCormac, President of the Royal College of Surgeons, had volunteered to go out with Sir Redvers Buller's command to South Africa. The announcement was received with cheers, and the secretary stated that the Government had accepted Sir William's generous offer, and that he would be provided with at least two civilian staff assistants. At the same time the enrolment of 52 medical men from civil practice in South Africa itself was announced, so that the shortage in the army medical service seems in a fair way to be made good.

The London Pathological Society has made a striking and interesting departure in its method of holding meeting during the coming year. Instead of meeting at a fixed place continuously like all other medical societies, one-third of its meetings will be held in the laboratories of its members either in research institutions or in colleges. So that instead of simply a written report with figures and a handful of specimens, a complete demonstration of any new results or processes can be made and verified and criticised at every step. The facts of this departure can hardly fail to be beneficial in every way, both as improving the quality of the original work done by the members and as affording them an opportunity for practically reporting progress and allowing the members to judge for themselves of the bearings of the work even before a complete and final conclusion has been reached. In order to render this interchange of views perfectly free and confidential, these meetings will be considered private sessions and none of the processes or results shown will be published without the special consent of the demonstrator. Its only injurious effect will be that of rendering a scientific body, which, like most of the London medical societies, already errs, to our Transatlantic eye, a little on the side of exclusiveness, practically a *mare clausum* to the outside profession whether home or foreign, and of course, journal reporters will be excluded from the meetings. However, this will probably be more than made up for by the improved quality of the work ultimately done and published.

A discussion of some practical interest has been going on in the columns of the *Lancet* in regard to the cost of motor cars for use in medical practice The popularity of these is rapidly increasing in England, apparently even more so than with us, and they are giving an amusing illustration of the well-known evolutionary law that an improved type tends first of all to exterminate its immediate predecessors and nearest rivals. Not only is the motor car on account of its cheapness, small stabling requirements and ability to be managed by the physician himself without the services of a coachman, replacing the horse on economical grounds, but by its more frequent presence on the streets is rendering the use of any but the dullest-spirited animal, unpleasant if not actually unsafe. A comparison of various makes appears to indicate that the expense per annum of a "petrol" motor car is about $180 a year, including repairs, interest upon money invested, fuel and license. This, of course, is barely half the expense of a single horse at city prices, and as it probably does the work of a pair of horses with their requirements of stable, coachman, etc., it would certainly represent a very decided financial saving, while to those who are of a mechanical turn of mind, its use probably gives quite as much pleasure as that of driving the living animal.

The Liverpool School of Tropical Medicine has just opened with a very small attendance, in spite of the distinction already won by it through its Sierra Leone Malaria expedition. This is attributed by the secretary in large measure to the same cause as that suggested in our last letter for the similar state of affairs in the London Post-Graduate Schools, *viz.*, the recall of numbers of army medical men and colonial officers to their posts. And, as at the Polyclinic, a number of these had actually entered for courses of instruction at the Liverpool School. A well-deserved compliment has been paid the school by the entrance for several of its special courses of Dr. Miyamoto, Professor of Medicine in the Imperial University of Tokio.

England evidently firmly intends to maintain the high position which, somewhat to her surprise, was accorded to her in the matter of a low death-rate from tuberculosis at the late Congress at Berlin. This was regarded as largely due to the relative absence of over-crowding, shown in the low average number of inmates per house, as compared with that in the continental countries. At its last session the great London County Council, probably one of the most enlightened and conscientious municipal governing bodies in the world, decided to devote no less than $3,500,000 to the destruction of various unsanitary tenements and the rebuilding of model homes for the same class of workmen. This is only one of a number of great sums which have been spent for the same purpose in the past ten years; and one of the smaller boroughs in the East End,

ment of nearly $1,500,000 in the erection of model cottages for laboring men.

The most interesting feature of the opening of the Edinburgh School last week was the address of Professor Schäfer, signalizing his assumption of the duties of the chair of Physiology in succession to the late Professor Rutherford. So great was the desire to hear the address that it had to be adjourned from the very large lecture hall of the department to the great central hall of the University itself, a thing unprecedented in the annals of the college. It is pleasant to see that Professor Schäfer can count upon such a cordial reception of his work in his new field, especially as it was at one time a little to be feared that the passing over of several strong local favorites in favor of a stranger and a Southron might have led to a little hard feeling. The brainy Scot is quite accustomed to descending upon the best positions that the South has to offer, but it is not often that the current sets in the opposite direction, although Lord Lister will be remembered as a notable exception to this rule.

The address in Medicine was delivered by Dr. John Willey in the enforced absence of Sir William Grainger Stewart, but the gratifying announcement was made that Sir William's health was almost completely restored and that it was only as a matter of extra precaution that he was advised not to resume his duties until the summer session.

A case has occurred of poisoning from the escape of illuminating gas by a method of leakage which, fortunately, we are little exposed to on the other side of the Atlantic. The sliding gasolier is a prime factor here in England, and as, of course, it involves the telescoping of one tube inside the other and the packing wears rapidly, a complete sealing of the joint is secured by the presence of a cup fastened to one of the segments, which is kept full of water, and this seals the joint "trap-fashion." The contrivance has one very serious defect and that is, that the water tends constantly to evaporate and unless much greater watchfulness than that possessed by the average householder, let alone the servants, is exercised the trap becomes dry and a leakage of gas occurs, especially when the tube is pulled down to its greatest length. This is all the more dangerous because the escape may be very slight and gradual so that the gas almost imperceptibly accumulates in the air. A nearly fatal case of poisoning from this cause has just been reported from Norwich and the very pertinent suggestion is made by several of the journals, that in future these cups should be filled with oil, or glycerin, or some other fluid which does not rapidly evaporate. A better method of reform would however, be the total abolition of the sliding gasolier, as the small additional convenience in varying the height of the chandelier is far more than counterbalanced by the great and humanly-speaking, uncontrollable risks.

The Suit for Malpractice against Dr. Robert E. Coy of Rockford, Ill., in which the plaintiff asked for $10,000 damages, was on November 1 dismissed, the plaintiff paying the costs. All of Coy's professional confrères were ready to endorse his conduct of the case.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.—SECTION ON MEDICINE.

Regular Meeting, Held October 17, 1899.

THE Chairman of the Section, DR. LOUIS FAUGERE BISHOP, in the Chair.

The first feature of the evening was some remarks from the Chairman on

THE RELATION OF THE PHYSICIAN TO THE STATE.

Dr. Bishop said in brief that the evening before just when sitting down to transcribe his address he had been disturbed by a patient whose case would serve as an introduction to his remarks, and to the proper subject of the evening. She was a young woman who had consulted him for the first time last July. She then presented symptoms of incipient tuberculosis, but in a very early stage. He had advised her to give up work and to go into the country for some time. This she did at that time, and rapidly improved. Her cough became very much less; her tendency to free perspiration, especially in the afternoon, which indicated a slight febrile condition disappeared, and she did not have any more night-sweats. She gained four pounds in weight. But at the end of eight weeks her funds were exhausted, and she was compelled to return to the city and to her occupation. She soon began here to have her old symptoms once more. They finally culminated in a pulmonary hemorrhage, and she was advised to return to the country, but she said simply that she could not because she had not the money. She was told that life depended on her going back, but that made no difference, she could not.

We know that such cases are practically always curable under proper treatment, and it is positively vexatious to be met by the money difficulty. A few dollars represents the difference in such cases between a slow, lingering, but inevitable death, and a long, perhaps happy, life.

Here is where the State can aid the physician in his work for the alleviation of human suffering. Here is where as physicians we have a right to demand such aid from the State. The State owes it to her citizens as much as she owes them other care. That to-night's meeting may serve the purpose of making this clear to the profession and to unite them in the effort to obtain this aid for the poor from the State is the object of the meeting, but this will be made clearer by others to follow. The paper that opened the discussion of the evening was read by DR. ALFRED MEYER, and was entitled

THE STATE CARE OF CONSUMPTIVES, WITH AN ACCOUNT OF THE MASSACHUSETTS STATE HOSPITAL FOR TUBERCULOSIS.

Dr. Meyer said in brief: "Few changes in medical thought are more striking than those which have come of late in the matter of the prognosis of phthisis. Formerly it was thought absolutely incurable. Laennec thought a cure possible sometimes after the cavity stage had been that of West Ham, is actually contemplating the invest-

reached. Niemeyer thought that death was the inevitable termination except if the disease followed pneumonia, when curiously enough he thought the prognosis was not so bad. Aretæus, Hippocrates, and Galen all thought that the outdoor treatment of tuberculosis did good. It is nearly fifty years ago now, since in Germany the curability of the disease was once more put forward. All this time there was proof of the curability of tuberculous processes in the post-mortem conditions which were found in lungs that had been affected by tuberculosis. Pessimism in the matter has now given place to a reasonable optimism and the treatment of the disease in sanatoria is considered always to do good. There is scarcely a country in Europe without sanatoria for the poor. Even in Japan two years ago a sanatorium was established. Massachusetts has begun the good work in this country. It opens up a possibility, a promising vista of great good for the tuberculous poor. She has set us an example as great in its way as that she set in the matter of slavery. A bill was introduced into the New York legislature last year appropriating $200,000 for a sanatorium for the tuberculous poor in this State in the Adirondacks. Unfortunately it did not become a law. Certain features which were objected to last year have been expunged and certain suggested improvements made, and it is hoped that it will pass the legislature this winter.

A few words about the sanatorium established by the State of Massachusetts may not be out of place. It is situated at Rutland near the exact center of population of the State. It consists of a number of separate wards, one story in height connected only by a corridor. The wards radiate from the administration building, which occupies the center as it were. It is under the care of both the allopathic and homeopathic practitioners. Certain features of the management are of general interest. Each patient has his own cuspidor, which is attended to very carefully. Paper handkerchiefs are used whenever the patients are out of the building and after use are enclosed in a self closing rubber pouch, somewhat like the old tobacco bags, and the handkerchiefs are burned. Paper napkins are used at the table. Special features of the institution and very popular ones are the winter camps in which patients live out of doors all day. The windows on the leeward side of the house are always kept open even in the coldest weather. The temperature of the wards in the winter time is scarcely ever above forty degrees Fahrenheit. At present there is but one nurse for each thirty-two patients. During the day and at night one nurse in the male and another in the female department are on duty. There are no male nurses. The administration realizes that this is an insufficient number of nurses, but their funds will not justify them in employing more.

A very commendable feature is the absolute separation of hopeless cases from those that are improving. If there is no improvement in from four to six weeks after entrance into the sanatorium the patient is discharged. The improvement is judged of by a lowering of the temperature, a lessening of the rapidity of the pulse, and an increasing weight and appetite. It is surprising what little coughing is heard in the institution. This has often been noticed before in hospitals of the same kind. During my stay there I seemed to be the only one who coughed. The average number of patients in the institution is about 400. The improvement is very marked.

This is what Massachusetts has done for the tuberculous, why should not New York do at least as much. One of the objections urged against the establishment of sanatoria for the tuberculous is that it savors too much of governmental paternalism. This sort of thing it is said should be left to private endeavor and individual benevolence. It does not come from these sources, however, and now that the tuberculous are being excluded more and more from general hospitals there is a crying need for special institutions. From the legal aspect it may be noted that all State constitutions provide for hospitals as well as for State prisons. It is a well-recognized principle that the State should care for its sick as well as for its criminal classes. The theoretical objections then may be waived as they have been in Massachusetts and great good will result. The practical objection is mainly money. This was formerly urged against the State care of the insane. How shortsighted such an objection was we are much better able to judge now that State hospitals for the insane have fully justified their existence. The decrease of consumption should not deter us but rather encourage us in this matter of founding sanatoria for the tuberculous poor. Ransom has shown by statistics that if consumption continues to decrease in England during the next thirty years as it has during the last fifty it will disappear. These statistics seem almost too favorable, but whatever can be done to shorten the interval before the disappearance of the disease will mean the saving of many precious lives and relief from a great deal of human suffering.

In discussion Dr. Flick said that it is the privilege of our generation to wipe out the great white plague that has carried off more people during the world's history than all other diseases combined. He then reviewed the movement with regard to the prevention of tuberculosis as it has developed in this country. The first discussion on this subject was the result of a paper read by himself in February, 1890. The result of this discussion was the establishment of the Rush Hospital for Consumptives, which still exists and is doing good work, though not as much as might have reasonably been expected. Since then discussions have taken place before most of the national societies. Thus far the main thing accomplished by the discussion has been the education of the public. In order that this may be more complete the medical profession must be a unit in the matter of the measures deemed necessary for the control of the disease and of the results to be obtained by them. In Europe only the rulers need to be educated in order to secure the foundation of sanatoria. Here in this country the whole sovereign people must be educated in order to accomplish a like result. Medical societies in every State then should take the matter up earnestly.

The State should supply sanatoria for incipient cases of tuberculosis, the Cities hospitals for advanced cases.

These will be of the greatest benefit to the well as well as to the sick. Government has assumed the responsibility for the health of the citizens. The constitution assures to every one the right to health and the pursuit of happiness. Danger from disease is the equivalent of other dangers, and the State has the duty to protect us.

How different the world would be if the "white plague" had been stamped out one hundred years ago. During this century some of the best of the human race in the heyday of their youth and the fulness of their energy have been taken off by it. People whose influence would have been incalculable. With reference to the reduction of the mortality from consumption in England, it must be remembered that England established special hospitals for consumptives a good many years ago, and that *pari passu* with the number of patients under treatment in the tuberculosis hospitals in England has been the reduction in the mortality from the disease. There are at present 10,000 beds in the consumptive hospitals in England. London has the lowest death-rate from consumption of any large city in the world. Forty years ago the mortality from this disease was very large. Curiously enough these hospitals were established not for the cure of the disease, but in order to furnish a place where consumptive patients might die in peace and under proper care. The humane idea has worked itself out into a great saving of life and of health in a quite unexpected, but very acceptable manner.

DR. VINCENT Y. BOWDITCH of Boston said we have the first State sanatorium for tuberculosis in Massachusetts and as the result of our experience with it, would be only too glad to have others share in the benefit. At first we thought that one of the difficulties to be encountered in a public sanatorium would be that refined patients, who were nevertheless poor, would not be satisfied to be under treatment in the wards of a hospital. The result has been very different from our anticipation. Patients, of the most deserving classes have come and the spirit of cheerfulness that reigns in the hospital wards is one of its most encouraging features. We did not secure enough money in our appropriation. Be sure that you do secure it here for it can be easily obtained, if asked for with the confidence that should be felt in this matter. One of the chief benefits of the sanatorium is its educational effect upon the community. Patients who go home improved in health, preach the gospel and practise of cleanliness, of abundant fresh air, and of good nourishing food to their friends and the amount of sanitary work that is done by the knowledge of proper precautions thus spread is simply incalculable. Our results for the first year have been eminently encouraging

DR. JOHN H. PRYOR of Buffalo stated that a great decrease in the mortality from consumption has been claimed to have taken place in England and also in New York, and it is said that the disease will disappear before long. I do not believe that the statistics of its decrease are correct, or that it ever will disappear. In certain years there has been a great decrease, but the general death-rate has also been very much less in those years. Last year there was an actual increase of 339 deaths from the disease in this State. A much more than proportionate increase to that of the population. This year in the first eight months there was an increase of 650 deaths, and if the death-rate continues for the next three months as it has for the past nine, and there is no reason why it should not, there will be more than 1000 more deaths this year than last. This is the largest increase recorded.

Under present circumstances, the poor, instead of having been benefited by the discovery of the tubercle bacillus and of its contagiousness, have rather been hurt. Their condition has been rendered more pitiable. Hospitals do not want to receive them, or at least do not want to keep them for long periods, and their presence in a community is generally considered undesirable. As it is now, the poor die because they are poor and for no other reason, for we have found that the treatment of tuberculosis can be carried on with reasonable success under favorable conditions.

Unfortunately there is no consensus of opinion among medical men, and county and state medical societies do not lend the weight of their influence to help out the poor under present circumstances. The present death-rate from consumption, I do not hesitate to say, is nothing less than a disgrace to the medical profession. Action on the part of medical men and of all medical bodies is greatly needed at present. The State would actually save money by establishing sanatoria for consumptives, for thousands of young people who are now yearly carried off would add many times more to her wealth than the amount of money that could possibly be spent in taking care of them, until they are well enough to resume their occupations. Sanatoria near home and sanatorium treatment here will do more good than at a distance, as in Colorado. More patients will remain well after their discharge from the sanatorium if the treatment has been carried on in a climate not unlike that in which they are to live afterwards.

DR. BRUSH of Brooklyn, stated that the annual loss now entailed by the deaths of consumption exceeds the whole cost of the State government. The State undoubtedly has the duty to protect her citizens in this matter, if she has the right to spend money in quarantining against contagious diseases liable to be introduced. The effective work against tuberculosis can be carried out more successfully than with regard to other diseases. As it is now the tenements breed the disease and the dwellers on the avenue suffer. As a business proposition then it would pay the State to invest in sanatoria for the poor.

DR. WM. H. THOMPSON said that the great danger in tuberculosis is not so much from the tubercle bacilli as from mixed infections. The alliance with bacteria that cause pus produces destructive ravages in the lungs. Some years ago surgeons opened the abdomen by mistake in several occasions when patients were suffering from tuberculosis of the peritoneum. To their surprise their patients got better after the closure of the abdominal wound. Somehow the exposure to air caused a retrogression of the tuberculous process. Some time since, a

surgeon at St. Mary's Hospital, London, pointed out the fact that the best treatment for pyemia was what he called hyperventilation, that is, patients were placed in rooms at the top of the house and in rain or fog or wintry weather as well as on fair days all the windows were kept open. The results secured by this method of treatment were excellent. The same organisms that cause secondary infection in tuberculosis are at work in pyemia, hence the good results that might be expected from the open-air treatment which can be best carried out in sanatoria.

MR. EDWARD T. DEVINE, General Secretary of the Charity Society, said that he hoped that a new regulation which his society had induced the council to introduce into the building laws would lessen the amount of tuberculosis among the poor in the tenement-houses. At present light-shafts in tenement-houses need not be any more than two feet and a half in width. The requirements should be that they should be at least six feet in width and this change has been proposed and the area of the light-shaft required to be fifty square feet.

DR. LEE K. FRANKEL, Manager of the United Hebrew Charities, said that his Society had never allowed other State institutions to take care of Hebrews, but had always insisted on taking care of them itself. They must now confess, however, that they were unable to cope with the problem presented to them by tuberculosis among the poor. And so they joined with others in asking for State aid.

DR. DANIEL LEWIS, President of the State Board of Health, advised going slow in the matter. Ill-directed legislation was often worse than none. The first thing that should be done was the erection of hospitals for the treatment of severe cases in order to prevent infection. As president of a State board of health he felt the necessity for this very much, and felt that the present movement asking for legislation for the care of incipient tuberculosis suggested a beginning at the wrong end of the line.

DR. S. A. KNOPF said that three kinds of hospitals for tuberculosis were needed: reception hospitals in the city, hospitals for the treatment of incurable cases of tuberculosis not far distant from the city, and finally sanatoria for the treatment of incipient tuberculosis in favorably situated localities. There was often considerable talk of the danger brought into a neighborhood by the presence of one of these hospitals. As a matter of fact, however, the educational influence of sanatoria caused the death-rate in their vicinity to grow less. This had occurred at Görbersdorf and at Falkenstein in Germany.

DR. NAMMACK introduced a resolution to the following effect: WHEREAS, tuberculosis is curable and private enterprise is not in a position to provide the necessary means for the erection of sanatoria for its successful treatment. *Resolved*, This section proclaims its approval of sanatoria for pulmonary tuberculosis and recommend that the New York Academy of Medicine take some formal action in order to have the Legislature pass a law providing for the erection and maintenance of such sanatoria.

CIRCULAR OF INFORMATION.

RULES AND REGULATIONS OF THE INTERNATIONAL CONGRESS.

I. THE Thirteenth International Congress of Medicine will open at Paris on August 2, 1900, and will close on August 9th. Its object is of an exclusively scientific nature. II. Membership will be granted: (1) To all doctors of medicine who apply for membership. (2) To the representatives of science who shall be presented by the French Executive Committee or by the Foreign National Committees. III. Members will receive their cards on forwarding the sum of 25 francs (£1) to be paid to the Treasurer General of the Congress. This card will be required for admittance, and to secure for the members the advantages reserved for them. The Foreign Committees may receive the adhesions of members of their respective nationalities. The committees will hand over the payments received to the French Secretary General, who will supply them in turn with members' cards in number corresponding to the payments. IV. In forwarding payments to the treasurer members should put their name, profession, and address plainly and legibly, and subjoin their visiting card. V. Among other advantages, members will be entitled to receive a digest of the proceedings of the Congress, and the printed report of the section to which the member belongs.[1] VI. The Congress will be divided into the following sections:

1st. Biological Sciences.—(1) Descriptive and comparative anatomy. (2) Histology; embryology and teratology. (3) Physiology; biological physics and chemistry.

2d. Medical Sciences.—(1) General pathology and experimental pathology. (2) Bacteriology; parasitology. (3) Pathological anatomy. (4) Internal pathology. (5) Hygiene and medical pathology of infancy. (6) Therapeutics and pharmacology. (7) Neuropathology. (8) Psychiatry. (9) Dermatology and syphilography.

3d. Surgical Sciences.—(1) General surgery. (2) Surgery of infancy. (3) Urinary surgery. (4) Ophthalmology. (5) Laryngology; rhinology. (6) Otology. (7) Stomatology.

4th. Obstetrics and Gynecology.—(1) Obstetrics. (2) Gynecology.

5th. Public Medicine.—(1) Legal medicine. (2) Military medicine and surgery; naval medicine; colonial medicine.

VII. An executive committee and an organizing committee will be charged with the labors of preparing and working the Congress. VIII. The Congress will sit every day, whether in the form of general assembles or of meetings of each section. IX. Two general assemblies will be held. The first will take place on the opening day of the Congress. The second will be held on one of the ensuing days. X. The first general assembly will elect the honorary presidents of the Congress. XI. The speeches and addresses, together with the voting ruled by the standing orders, will occupy the entire time of general as-

[1] Communications respecting the delivery of these reports to members to be addressed to M. Masson, publisher of the proceedings of the Congress, boulevard St. Germain, 120, Paris.

semblies. Those members will alone speak who have been appointed or invited by the executive committee. XII. All proposals relative to the course or nature of the proceedings of the Congress should be notified to the executive committee before May 1, 1900. The committee will decide in what measure these proposals shall be countenanced. XIII. Each sectional committee shall draw up its own working program (papers to be read, discussions on the subjects proposed, miscellaneous communications). XIV. The speeches delivered at the general assemblies and the papers read before the sections will be published in the record of the proceedings of the Congress; respecting the miscellaneous communications and the discussions, the Executive Committee reserves full right of discrimination. Each communication will be limited as to time to fifteen minutes, and the speakers who take part in the discussion will be timed to five minutes. XV. The papers, communications, and record of the discussions must be lodged on the very day with the secretary of the section. XVI. The French language is adopted as the official language by the Congress in all international relations. In the general assemblies, likewise in the sectional meetings, the German, English, and French languages may be employed. XVII. All matters relating to the proceeding of the sections, questions submitted for discussion, etc., to be laid before the president of the committee of the section. Matters concerning the general organization, business of the Congress, etc., to be referred to the secretary general of the Congress. XVIII. The second general assembly will meet to determine where the next Congress will be held and to elect the bureau.

SECTIONS.[1]

Biological Sciences. A. Section of Descriptive and Comparative Anatomy.—President, M. Milne-Edwards.[2]

a. Comparative Anatomy. — Vice-presidents, De Lagaze-Duthiers, Perrier, Filhol, Lavocat; secretary, Auguste Pettit, rue Saint-André-des-Arts, 60, Paris. Papers: (1) "Modifications of the Organs of Sense Brought about by Darkness," by Armand Viré, Paris. (2) "The Pithecanthropus," by Dubois, Leyden. (3) "Development of Some Lemurs," by Hubrecht, Leyden. (4) "Muscular Anomalies," by Ledouble, Tours. (5) "The Notochord," by Van Beneden, Liege.

b. Descriptive Anatomy.—Vice-presidents, Farabeuf, Paulet, Poirier; secretary, Rieffel, rue de l'École-de-Médecine, 7, Paris. Papers: (1) "Topography of the Brain," by Waldeyer, Berlin. (2) "Brain Centers of Association and Projection," by Debierre, Lille. (3) "The Ascending Passages of the Lateral Cord of the Spinal Marrow," by Van Gehuchten, Louvain. (4) "On Some Homologies of the Genital Organs," by Romiti, Pisa. (5) "Homologies of the Arteries of the Members," by Salvi, Pisa. (6) "The Suprarenal Capsules." By Valenti, Botogna; and Auguste Pettit, Paris.

[1] Members of the Congress who desire to put their name down for a communication or take part in the discussion of one of the papers proposed are requested to apply to the secretary of the section.

[2] Authors whose names bear no reference attached are from Paris.

b. Section of Histology and Embryology.—Honorary presidents, Ranvier and Balbiani; president, Mathias Duval; vice-presidents, J. Chatin and Henneguy; secretaries, Retterer and Loisel, rue de l'École-de-Médicine, 15, Paris. Questions Proposed for Particular Treatment: (1) Bronchial Derivatives. (2) Spectroscopy and Microspectroscopy in General Anatomy. (3) Functional Differentiation of Protoplasm. (4) Origin and Evolution of Leucocytes in the Animal Series. (5) The New Ideas Regarding the Histology of the Nervous System. (6) Chromatolysis. The Committee of the Section of Histology and Embryology will have rooms at their disposal and provide microscopes for the examination of preparations.

c. Section of Physiology, and Biological Physics and Chemistry. — President, Chauveau; vice-presidents, Marey, Armand Gautier, and d'Arsonval; secretary general, Dastre, á la Sorbonne, Paris; Secretaries, Gley, rue Monsieur-le-Prince, 14, Paris; Weiss, avenue Jules-Janin, 20, Paris. The Committee of the Section of Physiology do not propose any definite subjects for presentment in papers. The sittings will be given up to experimental demonstrations and communications upon subjects of a physiological interest, at the choice of the members.

Medical Sciences. (*a*) *Section of General Pathology and Experimental Pathology.*—Honorary presidents, Chauveau and Poutain; president, Bouchard; vice-presidents, Chantemesse and Langereaux; secretaries, Charrin, avenue de l'Opéra, 11, Paris; Roger, rue Perrault, 4, Paris. Questions proposed for particular treatment: (*A*) On the Condition of the Organism and the Modifications of That Condition with Relation to Infection and to Natural or Acquired Immunity. (1) On the Modifications of Humors in Infectious Diseases. (*a*) Application of Sera of the Blood to Therapeutics. (*b*) The Property of Agglutination and Its Relation to the Other Properties Acquired by the Humors. (2) On the Sources of Immunity in the Normal Organism. (3) On the Origin of Leucocytosis. (4) On the Organs Destructive of Microbes and Toxins. (5) Action of Toxins on the Nervous System. (6) Tropic Repercussion of a Nervous Origin in Infectious Diseases. (7) Pathogeny of Tetanic Contractures. (*b*) On Fever. (*c*) On Hereditary and Innate Characters. (1) Developmental anomalies and Conditions of Morbid Predispositions. (2) Influence of the Diseases of the Mother on the Nutrition, the Functional Activity and the Lesions of the Child. (*d*) The Diabetic. —Nutrition of the Diabetic. (*e*) Extrabuccal Alimentation. (*f*) Use of Röntgen-rays in Medical Semeiology. (*g*) Auto-intoxication.

(*b*) *Section of Bacteriology and Parasitology.*—President, Duclaux; vice-presidents, Arloing, Lyons; Laveran; secretary, R. Blanchard, boulevard Saint-Germain, 226, Paris. Papers: (1) "Tuberculosis," by Behring, Berlin. (2) "Immunity," by Büchner, Munchen; and Metchnikoff, Paris. (3) "Toxins and Antitoxins," by Ehrlich, Berlin; and Roux, Paris. (4) "Paludism," by Laveran, Paris; Danilevsky, Grassi, Rome. (5) "Parasites of Cancer," by Borrell, Paris.

(*c*) *Section of Pathological Anatomy.* President, Cornil; vice-presidents, Coyne, Bordeaux, and J. Renaut, Lyons; secretary, Letulle, rue de Magdebourg, 7, Paris. Papers: (1) "Histogeney of Epitheliomata," by Hlava (Prague), Fabre-Domergue, Paris; and Podvissotski, Kiev. (2) "Rôle of the Fixed Cells in Inflammation," by Baumgarten, Tubingen; Nikiforof, Moscow; and René Marie, Paris. (3) "Experimental Reparation of the Tissues," by Denys, Louvain; Ziegler, Freiburg and Carnot, Paris. (4) "Rôle of the Neuroglia in the Evolution of Inflammations and Tumors," by Weigert, Frankfurt; Marinesco, Bucharest; and Philippe, Paris. (5) "The White Globules of the Blood in Their Various Morbid Conditions," by Ehrlich, Berlin; and Jolly, Paris. (6) "Resistance of the Red Globules in Their Normal and Pathological States," by Hamburger, Utrecht; Hedin, Lund, Sweden; and Vaquez, Paris.

(*d*) *Section of Internal Pathology* (*General Medicine*).—President, Potain; vice-presidents, Dieulafoy, and Grasset, Montpellier; secretaries, Rendu, 28, rue de l'Université, Paris, and Widal, 155, boulevard Haussmann, Paris. Papers: (1) "Pathogeny of Gout," by Legendre, Paris; Ebstein, Gottingen; Sir Dyce Duckworth, London; and Kolisch, Vienna. (2) "Insufficiency of the Kidneys," by Achard, Paris; Laache, Christiania; Palinof, Moscow. (3) "Muco-Membranous Enteritis," by Ewald, Berlin; Mathieu, Paris; Nothnagel, Vienna; Revilliod, Geneva. (4) "Acute Edema of the Lungs," by Sirotonine, St. Petersburg; Von Basch, Vienna; Masius, Liege; Teissier, Lyons. (5) "Gastric Ulcerations," by Bozzolo, Turin; Dieulafoy, Paris.

(*e*) *Section of Medicine of Infancy.* Honorary president, Bergeron; president, Grancher; vice-presidents, Cadet de Gassicourt and Simon; secretary, Marfan, rue de la Boëtie, 30, Paris. Papers: (1) "Artificial Lactation, and in Particular the Use of Sterilized Milk," by Jacobi, New York; Johannessen, Christiania; Heubner, Berlin; Monti, Vienna; Variot, Paris. (2) "Gastro-intestinal Infections and Intoxications of Earliest Infancy," by Epstein, Prague; Escherich, Gratz; Baginski, Berlin; F. Fede, Naples; Martinez Vargas, Barcelona; Marfan, Paris. (3) "Infantile Tuberculosis," by d'Espine, Geneva; Hutinel, Paris; Richardière Paris; Moussous, Bordeaux. (4) "Acute Nodes Tubercular Meningitis," by Mya, Florence; Concetti Rome; Netter, Paris; Rauchfuss, St. Petersburg. Besides those questions which will form the subjects of papers, the Committee of the Section of Medicine of Infancy draws attention to the following questions: "Antidiphtheric Serotherapie;" "Infantile Rheumatism and Its Connection with the Infections of the Heart and Chorea;" "Alcoholism of Children;" "Constipation;" "Diseases of the Thymus."

(*f*) *Section of Therapeutics, Pharmacology, and Materia Medica.*—President, Landouzy; secretary, Gilbert, rue de Rome, 27, Paris. *I. Therapeutics.* Vice-president, Bucquoy; secretary, Gilbert, 27, rue de Rome, Paris. Papers: (1) "Treatment of Biliary Lithiasis," by Naunyn, Strasburg; Gilbert, Paris; and Fournier, Paris. (2) "Indications and Counter Indications of Blood-letting," by Baginsky, Berlin; Hayem, Paris. (3) "On Saline Injections in Therapeutics," by Landouzy, Paris. (4) "Should Fever Be Combated?" by Stokvis, Amsterdam; Lépine, Lyons. *II. Pharmacology.* Vice-president, Pouchet; secretary, Chassevant, rue Gay-Lussac, 32, Paris. Papers: (1) "Medicinal Associations in Therapeutics; Their Advantages; Their Disadvantages." (2) "Physiological and Therapeutic Action of Digitalis and Its Active Principles," by T. Lauder Brunton, London; Grocco, Florence. (3) "Mechanism of the Physiological and Therapeutic Action of Diuretic Medicines," by Tchebinof, Moscow; and Renaut, Lyons. *III. Materia Medica.* Vice-president, Planchon; secretary, Chassevant, rue Gay-Lussac, 32, Paris. Papers: (1) "Comparison Between the Therapeutic Action of Vegetable Pharmaceutical Preparations and Those of Their Immediate Active Principles." (2) "Present State of Our Knowledge Regarding the Active Principle of Digitalis," by Van Aubel, Liège. (3) "State of Our Knowledge Regarding the Various Species of Solanum," by Thoms, Berlin. (4) "Study on the Deterioration of Medicines Through Oxydation," by Bourquelot, Paris.

(*g*) *Section of Neurology.*—President, Raymond; vice-presidents, Brissaud, Dejerine, Grasset, Montepellier; Pitres, Bordeaux; secretary, P. Marie, 3, rue Cambacères, Paris. Papers: (1) "On the Centers of Projection and of Association in the Human Brain," by Flechsig, Leipzig; Hitzig, Halle; Von Monakow, Zürich. (2) "On the Nature and Canalization of Tendinous Reflexes," by Jendrassik, Budapest; C. S. Sherrington, Liverpool. (3) "Nature and Treatment of Acute Myelitis," by von Leyden, Berlin; Marinesco, Bucharest; Crocq, Brussels. (4) "Diagnosis of Organic Hemiplegia with Hysteric Hemiplegia," by Roth, Moscow; Ferrier, London. (5) "On Non-tabetic Lesions of the Posterior Branches of the Medulla," by Bruce, Edinburgh; Hómen, Helsingfors. (6) "On Various Points in the Study of Aphasia," by Tamburini, Reggio; Pick, Prague.

(*h*) *Section of Psychiatry.*—President, Magnan; vice-presidents, Joffroy, Gilbert Ballet; Pierret, Lyons; and Culerre, Laroche-sur-Yon; secretary, Ant Ritti, Asile de Charenton, Seine, France. Papers: (1) *Mental Pathology.*—"Psychoses of Puberty," by Ziehen, Jena; Marro, Turin; J. Voisin, Paris. (2) *Pathological Anatomy.*—"Pathological Anatomy of Idiocy," by G. E. Shuttleworth and Fletcher Beach, London; Mierzejewski, St. Petersburg; Bourneville, Paris. (3) *Therapeutics.*—"On the Confinement to Bed in the Treatment of Acute Forms of Insanity and on the Modifications that it Might Entail in the Establishment of Houses for the Insane," by Clemens Neisser, Leubus; Korsakof, Moscow; Morel, Mons. (4) *Legal Medicine.*—"Sexual Perversion with Obsession and the Impulses from the Medico-legal Point of View," by von Krafft-Ebing, Vienna; Morselli, Genoa; Paul Garnier, Paris.

(*i*) *Section of Dermatology and Syphilography.*—President, Besnier; secretary, G. Thibierge, 7, rue de Surènes, Paris. Papers: (*a*) *Dermatology.*—(1) "Para-

sitic Origin of Eczemas," by Kaposi, Vienna; Unna, Hamburg; Jadassohn, Bern; J. Galloway, London; Brocq, assisted by Bodin, Rennes; and Veillon, Paris. (2) "Tuberculides," by Boeck, Christiania; T. Colcott Fox, London; Campana, Rome; G. Riehl, Leipzig; J. Darier, Paris. (3) "Peladæ," by Malcolm A. Morris, London; Lassar, Berlin; Mibelli, Parma; Pavlof, St. Petersburg; Sabouraud, Paris. (4) "Leucoplasiæ," by A. Behrend, Berlin; J. J. Pringle, London; Perrin, Marseilles. (*b*) *Syphilography.*—(1) "Syphilis and Allied Infections," by Neisser, Breslau; D. Bulkley, New York; Ducrey, Pisa; Hallopeau, Paris. (2) "Transmission in the Hereditary Syphilitic," by J. Hutchinson, London; Tarnovsky, St. Petersburg; Finger, Vienna; L. Jullien, Paris. (3) "Causes of Generalized Infections in Blennorrhagia," by W. Taylor, New York; Lesser, Berlin; Tommasoli, Palermo; J. E. Lane, London; Balzer, Paris.

Surgical Sciences. (*a*) *Section on General Surgery.*—President, Tillaux; vice-presidents, Ollier and Léon Labb; secretary, Walther, 21, boulevard Haussmann, Paris. Papers: (1) "Surgery of the Pancreas," by Ceccherelli, Parma; A. W. Mayo Robson, Leeds; J. Boeckel, Strassburg. (2) "Radiography in the Examination of Fractures and of Luxations," by Ashurst, Philadelphia; Bergmann, Berlin; Maunoury, Chartres. (3) "Treatment of Tainted Wounds," by Bobrof, Moscow; Bloch, Copenhagen; Lejars, Paris. (4) "Intestinal and Gastro-intestinal Anastomoses," by Roux, Lausanne; Kraske, Freiburg; Chaput, Paris.

(*b*) *Section of Surgery of Infancy.*—President, Lannelongue; vice-presidents, Kirmisson and Piéchaud, Bordeaux; secretaries, A. Broca, 5, rue de l'Université, Paris; and Villemin, 58, rue Notre-Dame-des-Champs, Paris. Papers: (*1*) *Treatment of Congenital Luxations of the Hip.*—(*a*) "Treatment by Sanguinary Operations," by Hoffa, Wurzburg. (*b*) "Treatment by Non-sanguinary Methods," by Lorenz, Vienna. (*c*) "General Survey," by Kirmisson, Paris. (*2*) *Treatment of Pott's Disease.*—(*a*) "Treatment During the Initial Phase and During that in Which the Gibbosity is in Course of Formation," by Soubbotine, St. Petersburg. (*b*) "Treatment During the Phase in Which the Gibbosity is Completed," by Bradford, Boston, U. S. A.) (*3*) "*Therapeutic Indication of Appendicitis,*" by F. Treves, London; Roux, Lausanne; and Jalaguier, Paris.

(*c*) *Section of Urinary Surgery.*—President, Guyon; vice-presidents, Albarran and Pousson, Bordeaux; secretary, Desnos, 31, rue de Rome, Paris. Papers: (1) "Conservative Operations in Retention of the Kidneys," by Kuster, Marburg; Christian Fenger, Chicago; Bazy, Paris. (2) "Value of Surgical Intervention in Urinary Tuberculosis," by Saxtorph, Copenhagen; Hogge, Liège; Pousson, Bordeaux. (3) "Remote Results of Operational Treatment of Prostatic Hypertrophy," by W. White, Philadelphia; Von Frisch, Vienna; Legueu, Paris. (4) "Remote Results of Sanguinary Intervention in Urethrostenosis," by Reg. Harrisson, London; Mariachess, Odessa; Albabran, Paris.

(*d*) *Section of Ophthalmology.*—President, Panas; vice-presidents, Javal; and Gayet, Lyons; secretary general, Parent, 26, avenue de l'Opéra, Paris; assistant secretaries, Chevalereau and Rochon Duvigneaud. Papers: (1) "Optic Neuritides of an Infectious and of a Toxic Origin," by Bellarminoff, St. Petersburg; Nuel, Liège; Uhthoff, Breslau. (2) "Cortical Center of Vision," by Bernheimer, Vienna; Angelucci, Palermo; Henschen, Upsala. (3) "Comparative Value of Enucleation and of the Operations Suggested to Replace It," by Pfluger, Berne; Snellen, Utrecht; R. H. Swanzy, Dublin; de Schweinitz, Philadelphia.

(*e*) *Section of Laryngology and Rhinology.*—President, Gouguenheim; secretary, Lermoyez, 20 bis, rue La Boëtie, Paris. Papers: (1) "Pathogeny and Treatment of Ethmoiditis Suppurata," by Bosworth, New York; Hajek, Vienna; Schoeffer, Bremen. (2) "Spasmodic Rhinitides and Their Consequences," by Jacobsen, St. Petersburg; Masini, Genoa. (3) "Anosmia and Its Treatment," by Onodi, Budapest; Heymann, Berlin. (4) "Indications and Technique of Thyrotomy," by E. Semon, London; Schmeigelow, Copenhagen; Goris, Brussels. (5) "Vocal Nodules," by Krauss, Berlin; Capart, Brussels; Chiari, Vienna. (6) "Diagnosis of Cancer of the Larynx," by B. Fraenkel, Berlin; M. Schmidt, Frankfurt-am-Main.

(*f*) *Section of Otology.*—President, Gellé; secretary, Castex, avenue de Messine, 30, Paris. Papers: (1) "Surgical Treatment of Otic Sclerosis," by Siebenmann, Bâle; Botey, Barcelona. (2) "Pyoæmia Otitis," by Dundas Grant, London; Brieger, Breslau. (3) "Causes and Treatment of Ménière's Vertigo," by von Stein, Moscow; Moll, Arnheim; Pritchard, London. (4) "Acoustic Exercises for Deafness," by Urbantschitsch, Vienna; Rohrer, Zürich. (5) "Toxic Labyrinthitis," by J. Gradenigo, Turin. (6) "Acoustic Notations. Project of Unification," by Hartmann, Berlin; Schiffers, Liège.

(*g*) *Section of Stomatology.*—President, Pickiewicz; vice-presidents, Cruet and Gaillard; secretary, Ferrier, 39, rue Boissy-d'Anglas, Paris. Questions: (1) "The Intervention of Therapeutics in Anomalies of Position and Direction of the Teeth." (2) "Immediate Prosthesis in Its Applications to the Surgery of the Face." (3) "Influence of the Affections of the Mouth and of the Teeth on the Other Organs and on the General Systems." (4) "Choice of Antiseptics in the Treatment of Caries of the Teeth." (5) "Treatment of Alveolo-dental pyorrhea."

Obstetrics and Gynecology. (*a*) *Section of Obstetrics.*—President, Pinard; vice-presidents, Budin and Alph. Herrgott, Nancy; secretaries, A. Barr, 122, rue de la Boëtie, Paris, and Champetier de Ribes, 28, rue de l'Université, Paris. Papers: (1) "Etiology and Nature of Puerperal Infections," by Doleris, Paris; Pestalozza, Florence; Menge and Kroenig, Leipzig. (2) "On the Treatment of the Apparent Death of the New-born Child," by Ribemont-Dessaignes, Paris; F. H. Champneys, London; Fr. Schultze, Jena. (3) "Application of Radiography to Obstetrics."

(*b*) *Section of Gynecology.*—President, Terrier; vice-president, Pozzi; secretary, Hartmann, place Males-

herbes, 4, Paris. Papers: (1) "Surgical Treatment of Cancer of the Uterus," by Richelot, Paris; Dimitri de Ott, St. Petersburg; Montgomery Baldy, Philadelphia. (2) "On Cervical Metritides," by Pozzi, Paris; Döderlein, Tübingen.

(*a*) *Section of Legal Medicine.*—President, Brouardel; vice-presidents, Benoit, E. Demange, Lacassagne, Lyons; secretary-general, Motet, rue de Charonne, 161, Paris; assistant-secretary, Thoinot. Papers: (1) "Putrefaction in Its Relation to Docimasia Pulmonum," by Descoust and Bordas, Paris. (2) "Ocular Putrefaction as a Means of Determining the Time of Death," by Descoust, Paris. (3) "On the Burning of Bodies with Criminal Intention," by Ogier, Paris. (4) "Accidental Death by Electricity," by d'Arsonval and Bordas, Paris. (5) "Medico-legal Tests and Their Importance in View of the Accidents That may happen from the Habitual Use of Foods and Drinks Whose Preservation is Ensured through Chemical Agents (Borax, Salycilic Acid, Formol, etc.)," by Brouardel and Pouchet, Paris. (6) "Valvular Lesions Due to Contusion of the Parietes of the Chest," by Castiaux, Lille; Laugier, Paris. (7) "Action of the New Smokeless Powders on the Clothes and on the Skin," by Thoinot, Vielle, Paris. (8) "The Illegal Practice of Magnetism by Unqualified Persons," by Gilles de la Tourette, Rocher, Paris.

(*b*) *Section of Military Surgery and Medicine.*—President, Dujardin-Beaumetz; vice-president, Cunéo; secretary-general, Catteau, Ministère de la Guerre, Paris; assistant secretaries, Dziewonski and Alvernhe. Papers: (1) "On the Lesions Produced by Bullets of Small Caliber (of Six Millim. or Under)," by Habart, Austria; Lagarde, United States. (2) "On the Lesions Produced by Projectiles in Present Use in Artillery," by Demosthene, Roumania; Geissler, Germany. (3) "On the Rule for the Immediate Treatment of Fractures Produced by Gun-shot at the Ambulance or at the Field Hospital," by Bischer, Switzerland. (4) "The Subsection Desires That Those Doctors Who have taken Part in the Colonial Expeditionary Wars of the Last Ten Years should Describe, from the Experience of Their Practice, What was the Treatment of the Wounded, and to draw Some General Conclusions." (5) "Etiology and Prophylaxis of Typhoid Fever in the Army on Field Service," by Vincent, Paris. (6) "Etiology and Prophylaxis of Dysentery in the Army on Field Service," by Antony, Paris; and Simonin, Paris. (7) "Prophylaxis of Syphilis in the Army," by Ferrier, Paris. (8) "On Extemporé Means of Purifying the Water," by Lapasset, Paris. (9) "On Tropical Phagedenism," by Le Dantec, Bordeaux. (10) "Care of the Wounded to Be Given on Board Ship During and After Action: Transport of the Wounded. Means of Transport, First Dressing. Emergency Cases," by Fontan. (11) "Hospital Ships in Colonial Expeditions," by Burot. (12) "Plague. Bacteriology, Symptomatology, Serotherapy, Measures of Prophylaxis and Therapeutics," by Simon and Yersin. (13) "Tetanus in Hot Climates; Its Prophylaxis," by Calmette, Lille. (14) "Etiology and Prophylaxis of Bilious Hemoglobinuric Fever," by Firket, Liège.

REVIEWS.

A Text-Book of the Diseases of the Nose and Throat. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology in Jefferson Medical College; Consulting Laryngologist, Rhinologist, and Otologist to St. Agnes' Hospital, Philadelphia. Illustrated. Philadelphia: W. B. Saunders, 1899.

The author's aim to present to the reader the subject of diseases of the nose and throat in as concise a manner as is compatible with clearness has resulted in the production of a volume which as to press-work and general arrangement of the matter is admirable. The order of the chapters is somewhat different from that of many of the other text-books on this subject, as the plan has been to classify the diseases according to pathological alterations caused by them. This has resulted in some repetition, while on the other hand the advantage of ready reference is offered, and the reader finds at once, on turning to a certain subject, the matter desired, under the corresponding heading. The illustrations have evidently been prepared with particular care, many of the lithographs and original drawings having been made from specimens prepared by the author in his own laboratory, or from cases under his own immediate observation. Some of the anatomical cuts are composite, being made from a series of other illustrations together with original specimens.

The author's treatment of the subject is lucid, concise, and, generally speaking, complete. A number of minor omissions, however, appear on close inspection. Practically no mention is made of the use of the suprarenal capsule in nasal disease, and leptothrix amygdalitis is treated cursorily, especially as to symptomatology and treatment, no mention being made of reflex cough or of treatment by expression. In the chapter on the accessory sinuses, admirable in many respects, the operative procedures of Jansen, Czerny, and Nebringer are passed over in silence. No mention is made of the osteoplastic opening of the frontal sinus, after Golovine, which is, without much doubt, the method of election, in certain cases. It is also to be regretted that no chapter on affections of the trachea appears in the work, the more so, as symptoms referable to that organ so frequently accompany, or are induced by, laryngeal or nasal disease. The author, indeed, mentions the tracheitis complicating hyperplastic rhinitis, and laryngo-trachelo-ozena, but a complete discussion of this subject is not presented.

For the student Kyle's text-book is particularly well suited; the chapters on anatomy and physiology, no examinations and illumination and on diagnosis being especially thorough and copiously illustrated. The practical application of transillumination is described in extenso in the section devoted to diseases of the accessory cavities.

Die Mischgeschwueltse (Mixed Tumors). Von Dr. M. Wilms, Docent für Chirurgie in Leipzic. Heft 1: "Die Mischgeschwülste der Niere" (Mixed Tumors of the Kidney). Leipzig: Arthur Georgi, 1899.

We have read with interest this monograph on "mixed tumors" of the kidney. The author also intends to pub-

lish the results of his examinations in the class of tumors in other regions of the body, taking up the uterus and parotid tumors in succeeding monographs. The present work is devoted principally to the finer histology of the "mixed tumors" of the kidney, with the author's view as to their mode of origin. These tumors are all congenital in nature and are mostly discovered in the first three years of life. They always contain a variety of tissues, differing in this respect from the simple malignant kidney tumors in children, and on this account the author urges the importance of a microscopic examination from several parts of the growth. Necrosis and hemorrhage in the central parts are frequently seen, but no hematuria or metastases are observed, as are so frequent in the renal growths of adult life.

The tissues found in these tumors are smooth and striped muscular fibers, elastic fibers, adipose tissue, myxomatous tissue, fibrous connective tissue, cartilage, and glandular tissue. The author differs from Birch-Hirschfeld who states that these tumors arise from misplaced Wolffian body elements. The presence of many of the elements found in these tumors is thus explained, not so, however, the cartilage or striped muscular fibers. The Wolffian body does contain non-striped muscular fibers and according to Eberth the striped muscular fibers result by a process of metaplasia. Wilms is opposed to this theory and states that, whereas the Wolffian body is in part responsible for the presence of many of the elements, the other tissues probably arise from young undifferentiated embryonal tissue from the mesodermal layers.

A critical survey of the literature on the subject is presented and the author gives a description of the eight cases that he had the opportunity of examining microscopically. Then follows a minute description of each tissue separately. All clinical data are purposely omitted in the work. Several drawings from embryologic sections are included in the work, also a colored plate, describing some of the author's findings.

All in all, this is a book that every pathologist should obtain and study and we look forward with pleasure to the succeeding sections.

AN AMERICAN TEXT-BOOK OF DISEASES OF THE EYE, NOSE, AND THROAT. Edited by G. E. de SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia; and B. ALEX. RANDALL, M.A., M.D., Ph.D., Clinical Professor of Diseases of the Ear in the University of Pennsylvania. Illustrated. Philadelphia: W. B. Saunders, 1899.

THIS unusually complete and thoroughly prepared work is essentially a text-book, and, as such brings into prominence the practical side of the subjects treated, while, on the other hand a volume is presented to which the practitioner may refer for information upon a series of special subjects. The collaboration method employed in the preparation of the work, which has so often demonstrated its value, shows here one of its greatest advantages, that of presenting the views of experts, in a series of articles written by men who are authorities on the chapters assigned to them, while, as Howell has said, the student gains the point of view of a number of teachers, reaping, in a measure, the same benefit as would be obtained by following courses of instruction under different instructors.

In the portion of the work devoted to the eye, embryology, anatomy and histology are discussed by Piersol, physiological optics by Dennett and Cutter, functional examination by De Schweinitz, ophthalmoscopy by Randall, refraction by Jackson, while seventeen chapters are devoted to diseases and injuries of the orbit, eye, and appendages, and seven to ophthalmic surgery. The appendix contains valuable contributions on the subject of color-blindness, form and color-vision standards, the Roentgen-rays in ophthalmic surgery, the practice of ophthalmic operations on animal's eyes, and Mier's organisms in etiological relationship to ocular diseases.

Where all is so good, the singling out of articles might seem invidious, yet mention should be made of the care bestowed on even the shortest chapters, and of the uniform excellence of the illustrations, especially those representing the fundus oculi, as well as those accompanying the chapters by Holden, Weeks, and Piersol. In the portion of the work devoted to the ear, the anatomy, physiology, diseases and injuries are discussed in thirteen sections by prominent otologists; while the diseases of the nose and throat are described in twenty sections by Asch, Sajous, Jonathan Wright, Roe, Myles, and others equally well known.

This book may be recommended with confidence and commended to students and practitioners of medicine and surgery in general, as well as to those interested as specialists in the subjects of which it treats in particular. It will undoubtedly take equal rank with the other volumes of the "American Text-Book" series, which have been so well received by the profession.

GENERAL PATHOLOGY, or the Science of the Causes, Nature and Course of the Pathological Disturbances Which Occur in the Living Subject. By DR. ERNST ZIEGLER, Professor of Pathological Anatomy and of General Pathology at the University of Freiburg. Translated from the Ninth revised German Edition. Edited by ALBERT H. BUCK, M.D., of New York. New York: William Wood and Company, 1899.

ANY special criticism or extended review of this well-known work on pathology would be somewhat out of place at the present time. That the work is in constant demand is attested by the fact that nine editions in the original language have appeared during a comparatively short period. Many important data on the subject of cause and effect of disease have been noted in recent years, and the incorporation of these facts gives the book a distinct clinical value. The translators and editor have performed a most useful service in giving this work to English readers, but an important feature of the German edition, namely, the extensive bibliography at the end of each chapter, has been omitted, as "its publications would require fully two hundred additional pages."

As it is, the book contains nearly 600 pages of closely printed matter with an abundance of satisfactory illustrations, many being in colors.

The introductory chapter deals with health and disease, and the problems of general pathology and pathological anatomy. Following this are ten chapters devoted to the cause, origin, and course of disease; disturbances in the circulation of the blood and the lymph; retrograde disturbances of nutrition and infiltrations of the tissues; hypertrophy and regeneration of the tissues and organs; inflammation and the associated processes of repair; tumors; disturbances of development and the resulting malformations; fission-fungi which exist as parasites and the diseases caused by them; mold-fungi and yeast-fungi and the diseases caused by them, and the animal parasites.

We do not hesitate to say that this valuable work will become popular with all English-reading students, containing as it does an almost inexhaustible fund of knowledge and being written in a straightforward and concise manner. We earnestly commend the book to those interested in general pathology.

THE HYGIENE OF TRANSMISSIBLE DISEASES: THEIR CAUSATION, MODES OF DISSEMINATION, AND METHODS OF PREVENTION. By A. C. ABBOTT, M.D., Professor of Hygiene and Bacteriology in the University of Pennsylvania. Philadelphia: W. B. Saunders, 1899.

DR. ABBOTT'S book opens with a historical and argumentative introduction to prove, if such proof were necessary, the value of the hygienic and sanitary work of recent years. The exciting and predisposing causes of disease are then set forth, especial attention, of course, being paid to the rôle of parasites and bacteria. This is followed by a carefully written exposition of the causes, modes of dissemination and prevention of special diseases, such as typhoid fever, tuberculosis, the bubonic plague, Asiatic cholera, venereal diseases, rabies, and the other more common acute infectious diseases. Prophylaxis in general against infectious diseases is next considered and the precautions to be observed in the management of communicable diseases and a chapter on quarantine ends the work.

A careful reading of the book shows that the author has taken pains to emphasize throughout the prevention of disease. His article on typhoid fever may be taken as a model of the rest of the book. He shows—as is now universally acknowledged and believed—that polluted food or drink is the one great source of this disease. The series of instructive charts showing the increase of typhoid fever under unfavorable conditions of water-supply and sewage, and its decrease when these faulty elements were improved, offers striking, in fact, incontrovertible evidence of the truth of this position. The study of epidemics, too, is didactic to a high degree as there presented, especially that of the Philadelphia epidemic in 1897–8, which the author had the opportunity of personally observing. The directions for domestic prophylaxis in typhoid fever contain those that are usually followed by the physician of to-day and includes one suggestive hint that is probably not widely known: The removal of stains of blood or fecal matter from the linens used by the patient may be accomplished by soaking them for two or three hours in a *cold* three-per-cent. solution of carbolic acid and finally rinsing them in a fresh portion of the same solution. This will remove all stains, which will not, however, disappear if the linens are first subjected to moist heat by boiling, which process they should later go through.

The directions for prophlyaxis of the other transmissible diseases—and we are glad to note that the author carefully eschews the rapidly disappearing terms "contagious" and "infectious"—are equally exhaustive and full of practical suggestions.

The practitioner will find in the chapter dealing with the precautions in the management of communicable diseases all that modern hygiene can offer in the way of prevention; and this is much more than is ordinarily surmised. The chapter on quarantine is a short *résumé* of this important function.

The author has freely given credit to writers on hygienic and sanitary subjects, and has produced a book which is important for more reasons than that it is the first of its kind. It is scientific, but not too technical; it is as complete as our present-day knowledge of hygiene and sanitation allows, and it is in harmony with the efforts of the profession which are tending more and more to methods of prophylaxis. It contains so much that is worthy of being read that we wish the laity, too, could receive the benefits of its teachings. For the student and for the practitioner, it is well-nigh indispensable. The illustrations, some of them in colors, are mainly of charts, bacteria and parasites, and disinfecting apparatus.

THERAPEUTIC HINTS.

For Loss of Eyelashes.—When the eyelids do not show redness or other sign of inflammation, attention should be given to the general health, possible rheumatic conditions treated, and local inunctions be prescribed as follows:

℞ Ac. gallici . . . . . gr. viii
Ol. ricini . . . . . ʒ ss
Ol. lavandulæ . . . . . gtt. iv
Vaselini . . . . . ʒ v.
M. Ft. unguentum. Sig. External use.—*Trousseau.*

To Remove Freckles.—

℞ Hydrargyri chloridi corros. . . gr. viii
Zinci sulphat. } aa. . . gr. xv
Plumbi sulphat }
Aq. dest. . . . . ʒ viii.
M. Sig. External use.

Rub the skin with this lotion for half a minute night and morning, allowing it dry in the air. If this prove too irritating, use the lotion only at night, and in the morning apply the following ointment:

℞ Zinci oxidi . . . . . gr. lxxv
Vaselini . . . . . ʒ i.
M. Ft. unguentum. Sig. External use.

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ORIGINAL ARTICLES.

CHRONIC STIFFNESS OF THE VERTEBRAL COLUMN.

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Historical.—A stiff ankylosed spine, without involvement of other joints, or with involvement of only the hip and shoulder, is rather rare, except as the result of trauma, or Pott's disease. It is seen, however, following chronic or gonorrheal rheumatism, in arthritis deformans, spondylitis deformans, as an occupation kyphosis of certain laboring classes (the *duplicature champêtre* of French writers), and in paralysis agitans. Recently two new types of this condition have been described and much discussed in French and German literature, and I wish to report some examples.

Chronic spondylitis was described many years ago, the malady being classed with arthritis deformans. I recollect learning as a student that arthritis deformans had two types, one central or senile. and the other peripheral. In the central type the disease affected the joints of the hip, vertebræ, and shoulder, and proceeded peripherally. This I learned as a hospital interne, and it was the doctrine taught by Senator in "Ziemmsen's Cyclopedia, Vol. XVI., 1877." Chronic ankylosing spondylitis had, however, been described at least as long ago as 1864, by Blezinger and Von Thaden, and a case was cited by Brodhurst in "Reynold's System of Medicine" in 1866; also by Leyden in his work on "Diseases of the Spinal Cord." Dr. Bradford of Boston also reported two cases in 1883, in the *Annals of Anatomy and Surgery*, Vol. VII., p. 279. One of these cases was that of a man thirty-six years old, previously perfectly healthy, without any family or personal history of rheumatism. During that year he had an attack of urethritis, followed by rheumatism, which involved a number of joints, and also the back. The inflammation in the joints subsided, leaving him with a stiff spine. He subsequently had a number of other attacks of gonorrheal rheumatism, each ending with an increased rigidity of the spine, until finally it became absolutely immobile, and he was left in that condition, but otherwise perfectly well.

The second case of Dr. Bradford's was that of a woman of thirty-one, who had an attack of subacute rheumatism, ending gradually in spondylitis, with ankylosis of the spine. All of the joints became normal, except those of the vertebræ. These cases are probably not so very rare. They point to the fact that rheumatism may lead to a permanent ankylosis of the vertebræ.

Dr. W. Gilman Thompson refers to the central type of arthritis deformans, in his article on this disease, in the "Loomis–Thompson System." Gowers makes some reference to it in his "Text-book," Vol. I., p. 257, and Beneke[1] describes the pathological anatomy of spondylitis deformans.

The foregoing sketch, though not complete, will give some idea of the attention paid, up to within a few years, to this subject.

In 1892 Professor von Bechterew reported five cases of "Stiffness of the Vertebral Column with Kyphosis as a Special Disease Type."[2] The patients were women, and the ages were fifty-six, fifty-two and thirty-nine, the ages of the other two not being mentioned. They suffered from a chronic progressive ankylosis of the vertebræ, with marked arching forward of the spine. This was accompanied with intercostal pains and paresthesiæ, atrophy, and paresis of the trunk muscles, but without any involvement of the joints of the limbs. There was a history of heredity and trauma in three of them.

In 1894 Oppenheim published in his text-book, a short description of a form of arthritis deformans in which the vertebræ were affected, leading to ankylosis and giving much the same symptoms that Bechterew described. In 1897 Bechterew[3] reported another case in a man of fifty-two, and gave to his malady the following symptom-complex: first, immobility of the vertebræ, in whole or in part, without any great pain on percussion or movement; second, marked arching forward of the spinal column, especially of its upper part, as the result of which the head is pitched forward and appears sunken into the neck; third, a paretic condition of the muscles of the trunk, neck, and extremities, with slight atrophy of the shoulder muscles; fourth, lessened sensibility, chiefly in the distribution of the cutaneous nerves of the neck and dorsal region, and less in that of the lumbar region; fifth, various irritative phenomena of the nerves of the neck and trunk, such as neuralgia,

[1] *Beiträge. zur wissensch. Medizin. Festschrift.* d. 269 Vers. d. Naturf., etc., p. 109, 1897.
[2] *Neurologisches Centralblatt.* vol. ii, p. 426, 1892.
[3] *Deut. Zeitsch. für Nervenheilk*, vol. ii, p. 327.

paresthesia, and twitching of limbs. The breathing was abdominal, and the chest flattened. The shoulders and hips were not usually affected.

In 1898, P. Marie and Astie reported a case of what they termed hereditary traumatic kyphosis, in an elderly man. The symptoms resembled very much those of Bechterew's cases. A hereditary history was present. An illustration of this case is given in Fig. 1. In 1899, Bechterew reported

FIG. 1.

"Hereditary traumatic" type of kyphosis (case of Marie and Astie).

three other cases.[1] In two of these the hip and knee-joints were involved. He also publishes here the report of an autopsy upon one of his earlier cases, characterized by kyphosis, vertebral ankylosis, thoracic pains, and atrophy of the trunk muscles. This autopsy showed some atrophy and ankylosis of the vertebræ, but no inflammatory disease. There was no pachymeningitis, but there was a degenerative inflammatory process in the thoracic pia mater involving especially the posterior roots and ganglia, and to some extent the anterior roots. There were some secondary changes in the cord. Bechterew infers that the kyphosis was primarily the result of the root meningitis, with resulting atrophy of the trunk muscles and an ankylosis and kyphosis from paralysis of these. (See Fig. 2.) Similar observations to those of Bechterew have been made by V. Kohler,[2] Beer,[3] Schatalow,[4] S Popon,[5] and Baumler.[6]

[1] *Deutsche Zeitsch. f. Nervenheilk*, vol. xiv., pp. 37 and 47.
[2] *Charite Annalen*, xcii, 1897.
[3] *Wien. Med. Blatt.*, 1897, No. 801.
[4] *Arch. für Psychiatrie*, No. 9, 1898.
[5] *Arch. für Psychiatrie*, No. 1, 1899.
[6] *Deutsche Zeitsch. f. Nerv.*, xii., pt. 2, 1898.

Several cases of this kind have come under my observation. I report two which are most typical:

CASE I.—Mr. E. H., aged forty-four, United States, married; occupation, a manufacturer. The patient lives in an interior town of this State. His father died at the age of eighty, of old age; his mother died at sixty, of some cardiac trouble. There is no ancestral history of rheumatism. The patient is the youngest of six children, all of whom are now dead, and two of whom had epilepsy. The patient was a man of good habits, temperate in the use of alcohol, and did not use tobacco. He never had any specific trouble. He was the father of six healthy children. He had been a hard working man, but had had no serious illness before the present time. At the age of twenty he had inflamma-

FIG. 2.

Bechterew's case of chronic stiffness of the vertebral column, showing cross-section of dorsal cord with thickening of *pia mater* and sclerosis of cord; also changes in anterior roots, posterior roots and in posterior spinal ganglia.
(From *Deut. Zeitsch. f. Nervenh.*)

tion of the left hip, and some other joints, probably rheumatic in character. He recovered from this but suffered more or less from rheumatism for two or three years. He then continued free from it for a space of about twenty years.

His present trouble began about three years before I saw him, which was in June, 1896. At that time he had a rash of some kind, which he could not describe very well, and as the result of it, he was

sick for about three months. Then he noticed a gradual stiffness developing in the upper part of his spine, and at the same time the shoulders became stooping, and the back more and more arched. This condition was associated with some pain and sense of discomfort in the back, and a feeling at times of constriction around the chest. There was, however, no attack of sharp pain and no acute illness, which laid him up. The process gradually advanced until the whole vertebral column was perfectly rigid and very much arched, so that he walked with his body inclined at a great angle. The head also became somewhat immobile, so that he could not move it upward or forward much, and the lateral movements also became lessened. There was very little trouble with the hip joints, and he could walk fairly well. The arms were strong, but the movements of the shoulders became rather limited.

Examination.—When I saw the patient, in 1896, he was a man of medium height and thin body, very much stooped over. He was not, however, badly nourished or very anemic. He could arise from the sitting position only with a good deal of difficulty. When lying flat on his back, he could not get up without help. When standing he was able to walk with ease. The forearms were strong and the grip of the hands good. There were no deformities of the joints, of the hands, or of the elbows. The shoulder-joints were somewhat stiffened, and he could get his arm back of his head only with difficulty. The head was drawn down and forward, and the anteroposterior movements were very limited. Lateral movements were almost abolished. The muscles of the neck were atrophied to some extent. The back presented an extraordinary arch, produced by flexion of the dorsal vertebræ. The movements of the chest were very limited, the measurement from the mammary line being twenty-nine inches, and the utmost expansion being a half inch. The hip-joints were a little stiff, but the joints of the knees and the feet were normal. There were no exostoses observable upon the vertebral column.

Along the dorsal spines there was some tenderness on percussion at the fifth, sixth, and seventh dorsal, with a sense of constriction, but no pain on trying to breathe deeply. He had some neuralgic pains in the chest, especially at night. Occasionally he would have twitchings in the legs, and the knee-jerks were somewhat exaggerated. He had difficulty in sleeping well at night because he would get stiff and numb about the shoulders and chest from lying in one position, being unable to move himself. Anesthesia, ataxia, and disturbance of the bladder or rectal functions were absent. He had a cardiac systolic murmur, and the heart was a trifle hypertrophied. The kidneys and urine were normal. The patient's visceral functions were, in general, in very good condition.

I saw the patient again four months later. At that time he had improved somewhat in strength. He could walk further, and had fewer cramps in the legs. He was seen again by me a year later. At that time there was more kyphosis. The chest measurements were the same. The arms were a little weaker and less useful. The stiffness in the hip-joints had increased a little; otherwise his condition was not much changed. Through a letter recently received from his physician, Dr. Higgins, I learn that he is not much changed. He is still able to ride a bicycle.

CASE II.—Francis H., aged fifty-two years, married, German by birth; occupation, cigar-maker. The family history told of no hereditary taint of any kind, the parents being long-lived and free from rheumatic or nervous maladies. The patient himself had lived a regular, temperate life. He had been a rather hard smoker, but had drank little, and was regular in his habits. The man never had any venereal disease. His wife had had one child and no miscarriages. There was no history of injuries.

The patient himself had always been well except for occasional pains in the back. His present trouble began about a year before I saw him. At that time he began to complain of pain and stiffness in the back. These pains were continuous and squeezing in character, and they ran sometimes down into the arms, especially into the left, but never involved the legs nor the viscera. The pains did not resemble those of angina pectoris, as they were not accompanied by any sense of suffocation. These pains and the stiffness in the back continued gradually without much intermission. The patient, at the end of six or seven months, went to Europe, and was seen by Professor Erb, who made a diagnosis of locomotor ataxia and sent him to Nauheim, where he received the baths without benefit. He came to me in the winter of 1891, when I made my first examination The patient was a man of average physique, somewhat thin, and weighing about 140 pounds. He looked yellow and anemic. His gait was slow and rather feeble, and he carried his back in a perfectly rigid fashion.

Examination showed that the vertebral column was entirely rigid in the cervical and dorsal regions, there being some movement in the lumbar region. The shoulder-joints also were somewhat stiff. The patient could use his forearms and hands, but could only raise the hands to the shoulders very slowly and with difficulty. The head could be moved forward; laterally, only to a limited extent. The spinal column was very slightly arched forward. There was no distinct kyphosis. The movements of the chest were nearly abolished. There was however a very slight power of expansion. There was no stiffness or ankylosis of the joints of the lower extremities and no rheumatic deformities of any of the joints. The patient complained of an almost continuous feeling of constriction, sometimes amounting to pain, in the region of the fourth and fifth dorsal vertebræ, where there was a little tenderness on percussion, but absolutely no kyphosis. The patient could be hurt somewhat by movements of the trunk, lateral and antero posterior, but he did not mind it much. Jumping, coming down on the heels, and pressure on the top of the head, did not caused pain. There was, at one

time, loss of knee-jerks, but these subsequently appeared. Anesthesia, ataxia, paralyses, and involvement of the bladder and rectum were absent. The patient's general bodily functions were normal, except that he had little appetite and slept badly, on account of the discomfort in the chest.

The case, of course, suggested one of spinal tumor or of vertebral caries, but the subsequent history enabled me to exclude these conditions. He went at one time to Dr. Sayre, who could not find evidence of caries. There was no evidence either of an aneurism, which would not, in fact, have explained the ankyloses of the cervical vertebræ or of the shoulder and neck. The patient under counter irritation, baths and tonics, improved considerably for the next three years while he was under my care, and during those three years of observation, his symptoms changed very little. The rigidity of the back continued, no kyphosis or deformity developed, and in spite of the discomfort, he was able to go out a little, to play cards, and take some of the enjoyments of life. He, even at this last period, showed no signs of involvement of the joints of the extremities.

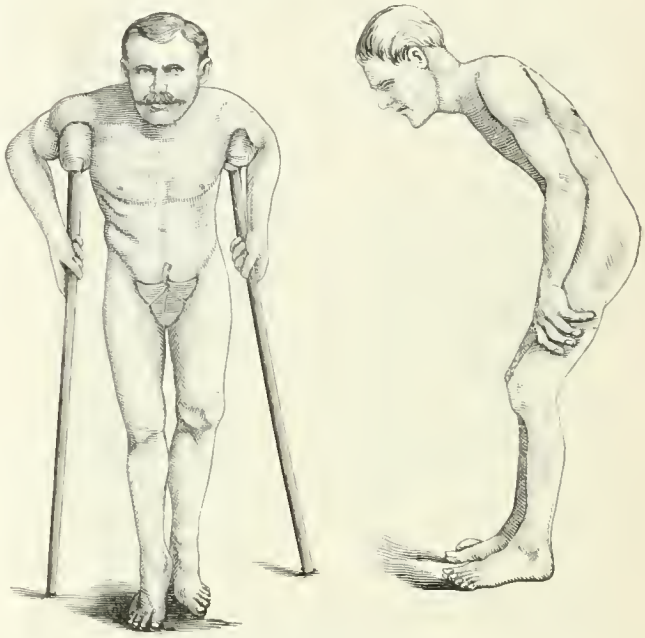
A recent examination shows little change, though his malady has lasted nine years, quite long enough to exclude tumor or tuberculosis.

FIG. 3.

Strümpell; case of chronic stiffness of the spinal column.

While Bechterew was studying this type of spinal trouble, observations upon another type were being made. In 1884 Strümpell, in his "Textbook of Medicine," under the head of Arthritis Deformans, says: "A remarkable, and as it seems to us, unique disorder may be mentioned in passing. It leads very gradually and painlessly to a complete ankylosis of the entire spinal column and the hip-joints, so that the head, trunk, and thighs are firmly united and completely stiffened, while all the other joints retain their normal mobility." Strümpell had seen two cases. In 1897 he reports a third case in detail, and[1] gives an illustration which is here reproduced (Fig. 4). The patient was a peasant, aged thirty-nine, with no rheumatic, hereditary, or traumatic history, whose trouble began with pain and stiffness in one hip.

FIG. 4.



Marie's first case of spondylosis rhizomelia. Front and lateral views.

The hips and spine in three and a half years became firmly ankylosed. He had few of the trunk pains described in the other class of cases.

Within the last year a large number of articles have been written upon this form of ankylosing spondylitis which, it is claimed, is different in character and type from forms previously described. Special attention has been drawn to it by the article of Dr. Pierre Marie.[2] He there describes three cases of chronic ankylosing spondylitis which involve the vertebræ, the hip and shoulder-joints; that is to say, the spine- and root-joints. He calls the affection spondylosis rhizomelia (*spondylos*, spine; *rhizo*, root; *melos*, extremity).

Marie's first case (Fig. 4.), he says, was seen by him in consultation with Charcot, in 1890. Neither of them was at that time able to make a definite diagnosis, but thought that it was a form, perhaps, of Paget's disease. Later, Marie having seen two other cases, and having noticed the suggestions of

[1] *Deutsche Zeitsch. für Nerv.*, vol. ii, p. 338.
[2] Marie, "Spondylosis rhizomelique," *Revue de Medecin*, April, 1898.

Strümpell, ventured to publish his observations in detail. The condition that he described is one characterized by a progressive ankylosis involving usually, first the hip-joints, then the vertebral column and the shoulder-joints. Sometimes one or both of the knees is affected, but never any of the smaller joints. It is not associated with any form of rheumatism or gout. The process is a chronic one,

FIG. 5.

Marie's second case of spondylosis rhizomelia. Front and lateral views.

and accompanied with a little pain. Some exostoses are observable upon the sacral bones and the bodies of the central vertebræ, and also a flattening of the thorax and pelvis, with loss of thoracic respiration and muscular atrophy in the dorsal and gluteal regions. The smaller joints are not affected. The malady attacks men only, and occurs at middle life and somewhat later. I reproduce here illustrations of some of Marie's cases. (Fig. 4 and 5.)

Since Marie's description there have appeared articles by Mutterer,[1] Hoffmann,[2] Professor Valentini[3] of Dantzig, L. E. Bregmann[4] of Warsaw, and Zenner of Cincinnati.[5]

I have here the report of a case of this affection which is now under my observation at the Montefiori Home.

CASE III.—Benni B., aged thirty-six years; occupation, tailor; nativity, Russian. Father died at sixty-five years; mother at sixty years. No rheumatic, tubercular, or neuropathic history in the family. Two children living; no miscarriages. The patient's personal history entirely negative, moderate in habits, no specific disease, moderate drinker. no smoker. No previous history of rheumatism, No accidents or emotional disturbances.

His present illness began five years ago at the age of thirty-one from no assignable cause. He first noticed pain in the left knee, which continued for some time, and then extended to the hip, where it continued. This pain and stiffness in the hip and knee progressed until he was obliged to give up work, and was admitted to the Presbyterian Hospital in 1894. He left there improved and had no symptoms for a year, during which time he worked. The pain then returned in the left hip and he was admitted to the Montefiore Home in 1895, with a diagnosis of tubercular coxitis, having had some history of cough and night-sweats. On admission, a careful physical examination showed no evidence of tuberculosis in the lungs. He was anesthetized, and some of the adhesions of the hip were broken up. He was seen at this time by Dr. Gibney, who considered it a case of tubercular coxitis, and he was placed in an apparatus for two months without any improvement. His trouble rapidly extended to the

FIG. 6.

Author's case of so-called "spondylosis rhizomelia."

back and to the right hip and right knee, until, at the present time, he has complete rigidity of the entire spine and of both hip-joints, as well as a great rigidity of both knee-joints. None of the other joints are affected, however, and the patient's elbows, wrists, ankles, and small joints of the hands and feet are quite normal. He has no Heberden nodules upon the hand.

The *status praesens* is as follows: I quote here

[1] *Deut. Zeitsch. für Nervenh.*, bd. xiv, hft. 1 and 2, p. 145.
[2] *Deut. Zeitsch. für Nervenh.*, bd. xv, hft. 1 and 2, p. 28.
[3] *Deut. Zeitsch. für Nervenh.*, bd. xv, heft 3 and 4, p. 239.
[4] *Deutsch. Zeitsch. für Nervenh.*, 1899, bd. xv, heft 3 and 4, p. 254.
[5] *Journal of Nervous and Mental Diseases*, vol. xxvi, October, 1899.

from a careful report made by Dr. Joseph Fraenkel, to whom I am greatly indebted for calling my attention to the case, and for close observation on it.

Pulse, 78; soft. Respiration, 18. Temperature normal. The man lies in a chair, rigid as a poker, and can stand only with difficulty; as he stands his head is held rigidly forward; the rigidity extends throughout the entire spinal column, from the fourth cervical downward; he can move his head backward and forward and somewhat laterally, though movements are limited in all directions (except the nodding of the head). The left thigh is adducted, rotated inward and slightly flexed. The right thigh is similarly involved, though to a less extent. The left foot is everted, with marked fixation at the ankle-joint. The leg is slightly flexed, especially the left sacrum, due to counter-irritation, with a few scars over the body.

The patient has a low forehead, a symmetrical head, flaring ear, *arcus senilis*, fibrillary contractions of the tongue. The pupils are equal, react well, with some nystagmus on lateral movements of the eyeball, especially to the right; facial innervation normal; pharyngeal reflex present; dry atrophic pharyngitis; dry rhinitis.

Upper extremities. The motor power is diminished, especially of the right side, and the left arm is greater in volume than the right. There is no ataxia. Muscles of right arm especially somewhat flabby. Reflexes elicitable. Mechanical irritability increased. Abdominal reflexes active; left cremasteric reflex active. Large scar in right groin. Right knee-jerk is very active, the left is elicitable, Achilles jerk not elicitable, plantar reflex active.

Fig. 7.

Same case.

the left one. The knees are both rigid, with fusiform swelling, the left being greater than the right, but no redness, no tenderness, no heat; some pain on attempting to flex the left leg is felt in the knee. Contractures of semimembranosus and semitendinosus muscles are marked, but less than of the other hamstring muscles. There is contracture and rigidity, but not marked, of the gastrocnemii groups, with rigidity of the tendo-Achilles of the left foot. There is some creaking in the right shoulder, though no limitation of motion. The toes are not involved in either foot. There is total rigidity of the left hip, and almost the same in the right. There is marked atrophy of all the muscles of both thighs, especially the left; prominence in both trochanters; prominence and apparent enlargement of the entire sacroiliac region; atrophy of glutei groups; tension of the abdominal group of muscles, and scar atrophy over

Mechanical irritability is diminished and uniform for both sides.

There is marked rigidity and stiffness of the entire thorax and the intercostal spaces are rigid. Lungs normal. Heart sounds rather week, with some aortic accentuation at second interspace. Liver and spleen normal. Urine normal as to albumin, sugar, and casts! No sensory disturbances.

From this view of the history of the subject it appears that there are two different types of chronic stiffness of the vertebral column for which individual characteristics are claimed. The first is that referred to by Strümpell, and described by Marie, as *spondylosis rhizomelia*, and of which a number of cases have been reported by others. In this the malady begins usually in the hip joints, and pro-

gresses steadily upward, affecting the spine and the shoulder joints. This is accompanied with a very marked rigidity of the spine, and some kyphosis, but this is not always very great. The patient does not suffer a great deal of pain, and does not have intercostal neuralgias or paresthesias or shooting pains in the nerves of the leg and arm.

The second type is that described by Bechterew, of which some examples have been reported. Here the trouble begins in the spine primarily, and is accompanied with a progressive stiffness and arching of the back, which may become very great. The patient suffers a great deal from intercostal pains, while the joints of the hip and shoulder are not very much, if at all, involved. There is, according to Marie, a hereditary history, and often a history of trauma, and Marie calls it the "hereditary traumatic type."

Pathology of the Affection.—The essential point in the pathology of the spondylosis rhizomelia, or Strümpell—Marie type, is, of course, to know whether it is not simply a form of arthritis deformans. The fact that Charcot saw Marie's first case, and, despite his enormous experience with rheumatoid arthritis, did not consider it such, must lead one to, at least, hesitate in asserting that there is no essential difference. The essential points which it is claimed, differentiate spondylosis, are: first, the fact that it produces directly an ankylosis, without any previous inflammatory swelling, with exudation and proliferation; also, that it produces this ankylosis directly, and not as the result of a deformity with secondary ankylosis, as in the case of arthritis deformans; second; that it begins in the vertebral joints, and extends thence to the hips and other large joints; third, that the smaller joints are never affected, or only rarely, in one or two cases; fourth, the internal organs and nervous system remain normal; fifth, the clinical picture is one of great uniformity; sixth, there is no previous history of rheumatism or gout, and no evidence of arthritis deformans in other parts of the skeleton; seventh, the affection occurs usually in men in about middle life.

As for the other or Bechterew type it seems to be a secondary affection, and may be caused by a chronic meningitis, or may in some cases be a form of rheumatoid arthritis.

Such is the status of the question at the present time. I must confess that, so far as my personal observations and reading go, it does not appear to me that the case for any specifically new malady is made out, and I am inclined to believe that spondylosis rhizomelia is after all a form of arthritis deformans essentially allied to that trouble in etiology, symptomatology, and progress, while Bechterew's cases suggest that disease in some cases, in others syphilitic meningitis.

50 W. FORTY-SIXTH STREET.

VACCINATING A NATION.

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IT is generally known that smallpox is endemic in all Spanish-American countries. Puerto Rico was no exception to this rule when occupied one year ago by the American troops. Indeed, the remark has been jestingly made that the people seem to think little more of smallpox than of an attack of prickly heat.

In December, 1898, it became known that the disease was prevailing in many portions of the island and that an epidemic was threatened. In January, 1899, the reports of the Post Surgeons were examined for November and December, and it was discussed that they had called attention to some 3000 cases of this disease, occurring during these two months, in sixteen of the seventy-one municipalities into which Puerto is divided. In view of these facts, the Governor-General on January 27, 1889, issued General Order No. 7, of which the following is the first paragraph:

I. "The inhabitants of this Island must be protected from smallpox. Every resident who has not had this disease will be vaccinated, and hereafter all infants must be vaccinated before reaching the age of six months."

This order appointed five directors of vaccination, five inspectors of vaccination, named all post surgeons as inspectors, and required them to render all the assistance possible in the undertaking. The whole work was under the direction of the Chief Surgeon of the Division, Major John Van R. Hoff. The experience of six months having demonstrated that all virus from the United States had lost its virility on reaching the island, it was decided to establish a "vaccine farm" at Coamo Baths, where cattle were abundant and facilities for the work already existed. This was done and the establishment placed first in the command of Major Azel Ames, U.S.V., later in charge of Captain F. P. Reynolds. U. S. A. A native cattle dealer secured the animals for use at a cost of an average of one dollar per head.

It is proper here to remark that bovine virus had long been used in Puerto Rico. The native machinery for its distribution was as follows: There was a Central Institute of Vaccination at San Juan, where little more was done than to keep the virus

alive. In each municipality there was a public vaccinator. When it was decided to vaccinate a village or barrio, the vaccinator of the municipality would secure some "pure" virus from the Director of Vaccination at San Juan, with this he would inoculate one or more calves, drive them to the village to be vaccinated, and on the appointed day all the people would assemble and the operations would be performed with virus taken directly from the animal. So performed, it is said, nearly all the operations were successful.

In the beginning of the work, the animals were tested for tuberculosis, but this disease being found absent, this test was in a short time discontinued. The men engaged in the work were divided into three gangs, each in charge of an acting assistant surgeon of the army. First, those testing for tuberculosis; second, the vaccinating squad; third, those collecting the virus. The work was done under wall tents, while the cattle were unconfined and lived in the open fields. No trouble was experienced in producing about 15,000 points each day. Each animal furnished on the average 500 points, the maximum being 3700 points. Since the animals were unconfined, they rubbed themselves removing the scabs, and there was doubtless some loss of virus. After being coated with virus the points were dried, the product from each animal placed in a separate tin box, sealed and sent to the packing station. There they were counted into bundles of 100, wrapped in oil silk, and with wrapping paper and securely tied. Over all a label was pasted giving the number of the animal and the date when the virus was taken. These packets of 100 points were again enveloped in cotton and from 2000 to 4000 points made into packages and daily mailed to the different directors.

The first plan was to vaccinate the people, using hospital corps men who were to be trained for the work as operators. Each director, under this plan, was to have an acting hospital steward, and ten enlisted men. Later it was thought best to employ native physicians, and their assistants, here called *practicantes*. Ten of these were allowed to each director, and were paid. Physicians received $50 in gold, practicantes $25 in gold and scribes 30 pesos per month. Physicians were able to give some attention to their practices meanwhile.

Preliminary letters were addressed to all the physicians on the island, also to all the alcaldes (mayors) asking their cooperation. The island of Puerto Rico is divided into departments. Each department into municipalities. There are seven departments and seventy-one municipalities in the island. Each municipality is subdivided into barrios, which nearly correspond to townships in the States. Each municipality is presided over by an alcalde, who is mayor, school commissioner, county commissioner, and sheriff, all in one. Each barrio is presided over by a commissario de barrio. The alcalde communicates his orders to the commissarios, and they to the people. Fortunately, the people are accustomed to obey their alcalde, and when he issues a proclamation for them to appear at a certain house on an appointed day to be vaccinated, most of them obey. Some, however, have excuses, as of old.

Carefully prepared instructions were issued to vaccinators, and the inspectors endeavored to keep them up to these rules.

Instructions for Vaccinators.—1. The hours of vaccination will be from 8 A.M. to 11 A.M., and from 2 P.M. to 5 P.M.

2. Vaccinators will be dressed in clean, white clothing at all times while at work. Before beginning work, and frequently during the process of the same, they will disinfect their hands with soap and water, using a nail brush, and follow this by immersing the hands in bichlorid solution, 1 to 1000. Vaccinators are responsible for the cleanliness of the instruments and materials used by them, and for the efficiency of their work.

3. Before an operation, the skin of the arm will be washed thoroughly with soap and water, then washed with bichlorid solution, 1 to 1000, and dried with a clean towel.

4. Vaccinations will be done on the left arm at about the middle of the external surface, and in two places half an inch apart. The skin is to be scarified in each place over an area of about 1 cm. or ⅓ inch, until a little serum exudes. Scarification may be done with a cambric needle, or with a lancet. After scarifying, the vaccine point will be dipped in sterile water and then *thoroughly* rubbed over the scarified surface. The arm should remain uncovered until it dries, and no person should leave the room until the arm is dry.

5. If needles are used for scarifying, they should first be boiled for half an hour and then kept in carbolic solution, 1 to 40, until needed. A needle should be used for but one vaccination in a day. At the end of each day the needles used are to be collected and disinfected, as above indicated, for use on the following day. If a lancet is used immediately before each operation it shall be dipped into carbolic solution, 1 to 20, and then passed through the flame of an alcohol lamp.

6. Each vaccinated person should be instructed that he is not to scratch the sore, nor to injure the vesicle nor to remove the scab, but to let it drop off. He should be directed to keep the body clean, and if the arm becomes painful he may cover the sore with a cloth wrung out in very hot water.

7. All persons presenting themselves for vaccination who appear to be suffering from any febrile or exhausting or skin disease which would cause complications, should

not be vaccinated until their cases have ben passed upon by the inspector.

8. All persons should be vaccinated as nearly as possible, in the order in which they present themselves.

9. All used vaccine points must be preserved and returned to the Vaccine Depot at Coamo.

Schedules for the itineraries were made out for the physicians in each municipality, which he was expected to follow, going over the ground twice, once to vaccinate, and a second time to grant certificates, and revaccinate all in whom the first operation failed. They were printed as hand-bills, and widely scattered over every district.

Each director had his office in a central town, where he could receive and distribute the virus readily. It was received from the "farm" and dispatched daily, and could sometimes be used the second day after taking. On the appointed day the director dispatched the virus to his vaccinators and they began work. At the close of each day's work the scribe with each party reported to the directors, as follows:

Number of persons at work.
Number of persons vaccinated.
Number of certificates granted.
Quantity of virus on hand.
Amount needed on the morrow.
Amount received during day.
Material needed on the morrow.

These reports were forwarded to the director daily from every vaccinator and thus enabled him to have complete control of his work.

The inspectors in their rounds made the following inquiries:

Number of vaccinators at work. Average number of persons vaccinated each day per operator. Are vaccinators clean in dress, person, and hands? How are the arms prepared for operation? What instruments are used in scarifying? Are instruments disinfected after each operation? Is the work thoroughly done? In what condition do you find record books? Is the virus regularly received? What per cent. of operations are successful? Have any bad results followed operation? What difficulties have been met? What suggestions do you make to improve the work?

Each director reported to the chief surgeon weekly, telling of the progress of the work, of the difficulties met with, and the number of persons vaccinated and revaccinated. As each person was vaccinated, his name, sex, age, color, residence, age of virus used, etc, were all carefully recorded. When he returned for his certificate, the result of the vaccination was noted and recorded. In this way a complete record of the work was preserved.

It being feared that the people would not promptly avail themselves of this particular blessing of American citizenship, the circular here presented was issued by the commanding general:

The alcaldes of the several jurisdictions of the vaccination divisions of this department are required to use all their authority to secure prompt compliance on the part of the people with the order of these headquarters requiring all the inhabitants to present themselves for vaccination when notified. Any persons failing to so present themselves either for vaccination, or examination afterwards, as directed, will be punished.

No person who cannot present a duly attested official certificate of vaccination after the date when the official vaccination in his or her barrio or district, is completed, shall be admitted to any school, public or private; shall travel by any public conveyance, visit any theatre or any place of public resort, engage in any occupation related to the public, or receive employment.

All school teachers, managers, employers and others effected by this order, will govern themselves accordingly under penalty.

This circular was issued over the signature of Major-General Henry, Governor-General of the Island.

On June 25th the chief surgeon received a telegram from the "farm" that on that day at 3 P.M., the one-millionth point had been taken. The reports on June 30th, when the work closed showed that in all some 790,000 persons had been vaccinated. Vaccine was furnished free of cost to all physicians on the island, and doubtless 10,000 were vaccinated by them. In all, not much less than 200,000 persons must be immune, having at some time had the disease. Hence it may be considered that Puerto Rico is now protected against smallpox so far as successful vaccination can do it.

Suggestions, based on the experience gained in the work in Puerto Rico, may be offered as of use in similar operations in the future.

1. The work should only be undertaken in the dry season. (2) The virus should be used as soon as possible after its production. (3) Two or three days' supply of virus should constantly be on hand at each station because of accidents from storms and other unavoidable causes, for whenever the people have assembled, there should be virus present with which to vaccinate them without fail. (4) The alcaldes can, if they will, bring the people out to the appointed places. At times they will not exert themselves to do this. On the first failure they should be reported to the military governor, after which there will be no more trouble with this particular official. (5) A single vaccinator can thoroughly cleanse each arm, and vaccinate 200 persons in a day of eight hours. If hurried he can vaccinate 300. If the arms are cleansed and dried

for him, or if this is altogether neglected, he can vaccinate readily 500 persons in eight hours. (6) Physicians, for the small pay offered will not take an interest in this work. The practicantes, for $25 per month, will do honest and faithful work. The economy in employing them is evident.

Many difficulties were encountered. The country and the people were foreign. Their language and customs were strange. Rains swelled the mountain streams to torrents which were often impassible for days at a time. There were no hotels in the country villages, and no means for caring for man or beast, and yet, in three working months, 800,000 persons were vaccinated!

Many excuses were offered for failure to accomplish the work expected. One young physician, just from the University of Madrid, when asked why he did not vaccinate all the people gathered at a cock-fight where he was working, replied, "I feared a thrashing." Another physician said the people had no clothes to wear away from home and that he had to visit each household. This finally became a prevalent excuse and, sad to say, it was often true. Another physician reported that he had to send many people home to take baths, and thus lost time. One physician was discovered dipping each virus coated point into boiling water before using it, declaring he thought better results would follow sterilization of the virus before using it! Not a single death which could be strictly attributed to the vaccination occurred. There were some infected arms, and some of the people and a number of the municipalities asked for relief, because the poor were not able to perform their accustomed labors, but this trouble was not serious. Not a single riot or lesser disturbance occurred. The people generally welcomed the operators.

The total cost of the work was $32,000, or about 4 cents for each person vaccinated, certainly not an extravagant sum for ridding a country of a loathsome disease. At this date, October 20th, not a single case of smallpox is known to either the military or the civil authorities, and it may be considered *stamped out* of Puerto Rico. This is the first time this feat has ever been accomplished in a Spanish-American country. Can a similar result not be attained in the other tropical colonies of the Union?

SAN JUAN, P. R., October 20, 1899.

Measles in Buffalo.—During the three days ending November 13th there were 68 cases of measles reported in the city of Buffalo, and 237 cases have been reported since October 1st. The disease is spreading through many of the public schools. It would seem that they need medical-school inspection in Buffalo.

A BRIEF SUMMARY OF THE INDICATIONS FOR OPERATIONS ON THE STOMACH.[1]

BY MAX EINHORN, M.D.,
OF NEW YORK.

THE greater number of real cures nowadays among patients with digestive ailments are due, firstly, to a more thorough knowledge of their nature; secondly, to the use of more appropriate treatment (dietetic, medicinal, and physical measures), and, thirdly, to operative intervention. Operations on the stomach, although rare in olden times, have been performed during the last twenty or thirty years with increasing frequency. These operations serve to remove disorders which cannot be treated successfully by ordinary measures. They are, therefore, not antagonistic to the medical plan of treatment, but, on the contrary, are in harmony with it and supplementary to it. Among the many authors who have advanced the surgery of the stomach in America, I may be permitted to mention the following: Robert F. Weir, N. Senn, W. T. Bull, Joseph D. Bryant, Robert F. Abbe, F. Lange, Charles McBurney, Willy Meyer, A. McCosh, A. Gerster, F. Kammerer, Roswell Park, Murphy, and last, but not least, W. W. Keen.

While these operations, so distinctly beneficial in suitable cases, are sometimes not given due consideration, they are occasionally performed in conditions for which they are not required. For this reason it appeared to me timely to broach the subject of the indications for operations on the stomach.

The operative procedures upon the stomach are the following: Gastrotomy, gastrostomy, measures to facilitate the outflow of chyme from the stomach (pyloroplasty, divulsion of the pylorus, gastro-enterostomy), resection of part of the stomach or of the entire organ, gastrolysis, gastroplication, gastropexy. It will be best to briefly review each operation separately, and state for what conditions it should be undertaken.

Gastrotomy, simple incision followed by immediate closure of the stomach, is done firstly and principally for the purpose of removing foreign bodies from the gastric cavity. These may have been swallowed or been formed in the stomach. The operation is indicated: (1) If the swallowed body is not smooth, but irregular with sharp edges which may injure the tissues. (2) If it is too large to pass through the pylorus and at the same time gives rise to disturbances; pains, nausea, vomiting, etc. (3) In rare instances, in order to examine the interior of the stomach with reference to the presence of

[1] Read at the Sixteenth Annual Meeting of the New York State Medical Association, held at New York, October 24, 25, and 26, 1899.

malignant superficial neoplasms, ulcers, or ruptured blood-vessels in the case of profuse hemorrhage.

Gastrostomy establishment of a new opening into the stomach or gastric fistula, is performed in cases in which the passage of food and liquids from the mouth to the stomach is arrested or rendered difficult. Gastrostomy should be resorted to: (1) In all cases of malignant disease of the esophagus, including the cardia, as soon as the dysphagia appears. (2) In cases in which inoperable tumors (struma, aneurisms, intrathoracic growths) compress the esophagus to such a degree that even liquid food cannot be taken by the patient in sufficient quantity to maintain nutrition even at a degree of bare subsistence. (3) In benign strictures of the esophagus in which all attempts to dilate them by the way of the mouth have failed. In this group after gastrostomy the retrograde dilatation of the stricture by way of the new gastric opening can often be successfully achieved. After the latter has been efficiently done the gastric fistula may again be closed. (4) In cases of idiopathic dilatation of the esophagus a gastric fistula may be temporarily established in order to introduce food into the stomach directly, and thus give the esophagus a chance to rest, recuperate, and contract. This, however, is not an absolute indication, as the same method of treatment can be carried out by nourishing the patient through a tube introduced by way of the mouth. Here, also, the esophagus is entirely at rest, as the food does not come in contact with it.

Measures to Facilitate the Outflow of Chyme from the Stomach: Divulsion of the pylorus; pyloroplasty; gastroenterostomy. These operations are performed in all cases in which the outflow from the pylorus is permanently retarded to such a degree that constant ischochymia results. Inasmuch as these conditions are quite frequent and their management is of much importance, it may be well to dwell on this subject a little longer. The outflow through the pylorus may be impaired by the followlowing agencies: (1) Narrowing of the lumen of the pylorus by benign strictures, by idiopathic hypertrophy, or by malignant tumors. (2) By spasmodic contraction of the pylorus in consequence of an ulcer in its immediate neighborhood. (3) Excessive dilatation of the stomach with radically impaired function of its muscular apparatus.

It is quite evident that pyloroplasty or divulsion of the pylorus will come into consideration only in the benign form of Group I. (*i. e.*, those subjects with benign stricture and hypertrophy of the pylorus), while in the remainder of the groups enumerated gastroenterostomy is demanded as the only feasible operation. Divulsion of the pylorus has not been practised within recent years, as recurrences of the stricture have often followed soon after this procedure. Although pyloroplasty is an ideal operation, since it creates anew an almost normal condition of the stomach and restores its function, it is not frequently performed. The conditions suitable for pyloroplasty are not numerous (only benign stricture and not too excessive hypertrophy of the pylorus), and even here it can be replaced by gastroenterostomy. This is the operation which is more often practised than any other surgical procedure on the stomach. It is the only operation practicable in malignant diseases involving the pylorus, in ulcer in the neighborhood or within this orifice, and, finally, in extreme atonic dilatation of the stomach.

Resection of part of the stomach or excision of the entire organ is performed in cases of malignant disease. The indication to remove malignant growths by surgical intervention is always present, but unfortunately not always feasible or possible. Cases adapted for partial resection of the stomach are those in which the tumor is confined to a certain part of the stomach, is quite circumscribed, and has not as yet involved the adjacent organs. If the pylorus is affected a pylorectomy is done with the performance of either a duodenogastrostomy or a plain gastroenterostomy after suturing the stomach and duodenum separately. A diffuse carcinoma extending over the entire surface of the stomach, but sharply terminating at the cardia and pylorus, may be removed by an entire excision of the stomach and the performance of an esophagoduodenostomy, provided there be no cancerous deposits in other organs nor adhesions of the growth to contiguous parts.

Gastrolysis, or loosening of adhesions from the stomach, is performed either in connection with other operations or in cases in which such adhesions cause persistent marked pains, and when their existence is recognized by distinct symptoms or after an exploratory laparotomy.

Gastroplication, folding and suturing the stomach walls to each other, has been advocated by Bircher and Weir in cases of dilatation of this organ. The operation may be indicated in excessive dilatation of the stomach without the presence of a stricture.

Gastropexy, suturing or fastening the stomach to the upper part of the abdominal wall, has been suggested by Duret as a remedy for gastroptosis and also Glénard's disease. From my own experience I must say that I have not as yet met a case of enteroptosis requiring such an operation.

Having discussed the indications for operations upon the stomach in a general way, it may be of interest to go a little more into detail with regard to surgical intervention for removing conditions of

ischochymia. For, numerically, it is for this condition that more than half of all the operations of the stomach are performed. From a clinical standpoint the large group of ischochymia must be divided into two classes: Firstly, cases of ischochymia due to benign processes (ulcer near or within the pylorus, cicatricial stenosis of the pylorus, idiopathic hypertrophy of the pylorus, extreme dilatation of the stomach due to atony of its muscular layer), and, secondly, cases due to malignant diseases of the stomach (cancer of the pylorus and also of the stomach).

Benign forms of ischochymia often show a tendency to amelioration, especially if the stenosis is not too far advanced. Here a rational dietetic treatment is crowned with good results. For this reason we should not be hasty in advocating surgical intervention. We should first try all the rational non-surgical methods of treatment at our command, and only if they absolutely fail and the ischochymia remains in a high degree (*i. e.*, persists even on a liquid-food diet), should we urgently recommend an operation. For, if the latter be omitted in the conditions just mentioned a fatal issue will sooner or later occur.

The operation should also be recommended in cases in which the attacks of ischochymia have appeared repeatedly or where an ulcer with considerable hemorrhage has preceded the existing trouble, and the patient is quite emaciated.

The reason why surgical intervention can not as yet be advised in all cases of more or less permanent ischochymia is the high mortality following operative intervention. In cases of ischochymia in my own practice, due to benign processes operated upon by the best surgeons of this city, there were six deaths among twenty cases, or a percentage of mortality of thirty. In Czerny's clinic the mortality of all operations upon the stomach gave the average figure of sixteen per cent. The mortality of these operations (gastroenterostomy or pyloroplasty) thus being so high we cannot advocate them in the benign form of ischochymia, unless a condition exists which is incompatible with life.

The other group of cases of ischochymia resulting from malignant disease of the stomach, and more especially of the pylorus,cannot materially improve by rational medical treatment. In most instances the ischochymia will progressively become worse and naturally increase the suffering and hasten death. An operation will be the only rational way of treating this group. Even the great mortality will not deter us from urging surgical aid. These patients are beyond help, and we must use all feasible methods of alleviating their suffering and prolonging life. As soon as the diagnosis of cancer of the stomach can be positively made, and there is a concomitant ischochymia, an operation (gastroenterostomy and perhaps also excision of the growth) should be performed in every case without any further delay.

In conclusion I beg to submit the following propositions:

1. Operations on the stomach for malignant disease should be performed as early as possible.

2. In benign affections operations on the stomach should be performed if all other curative means have been exhausted and have failed to produce relief.

20 East Sixty-third Street.

DISCUSSION.

Dr. DeLancey Rochester of Erie County said that for malignant tumors operation is of course the indication. The sooner it is done the better. Even a reasonably well-founded suspicion of the presence of malignant neoplasm will justify at least exploratory incision. In the case of benign tumors it is more difficult to decide. If there is not marked improvement within two months after treatment has been begun in a case in which there are severe digestive symptoms and in which the general nutrition is suffering a great deal, it is advisable to operate. Usually the trouble will be found at the pylorus in these cases; some form of contracture or hypertrophy being present. For such cases a pyloroplasty is better than a gastro-enterostomy. The connection with the intestine is apt to be made lower down than is intended and a considerable amount of intestinal digestive space is lost. Duodenal digestion at least is excluded and this is of importance.

Dr. Finder of Troy said that operations on the stomach should be undertaken more frequently than they are. The stomach stands operative interference much better than was anticipated by surgeons some time ago. He had seen five operations involving the stomach within the last year in his own neighborhood from all of which the patients recovered without incident. In one of the cases practically all of the stomach was removed. Relief can be afforded to gastric symptoms and patients can be relieved of a great deal of discomfort and given a reasonably good chance for their lives by boldly operating in severe cases. As a matter of fact it proves not to require so much boldness after all.

Dr. Marcy of Boston said that the day had certainly come when more operations will be done on the stomach than heretofore. We are learning that the surgeon has a distinct place in the treatment of chronic gastric symptoms from benign causes as well as from malignant neoplasms.

Dr. Einhorn, in closing the discussion, said that he would coincide with the suggestion as to operations for benign stomach affections, only that the mortality of operations on the stomach in such cases is as yet so high. After all the death-rate is nearly if not quite 25 per cent. and that in the hands of good operators. Even

patients who have not been exhausted by the disease and go to the operating-table reasonably well nourished die after operation. The medical man feels like treating such patients medically, until absolutely all hope of improvement seems past.

In reply to a question as to whether interference with the large plexuses of the abdominal sympathetic caused death in these cases, Dr. Einhorn said that while death is, of course, often due partly at least to shock and this might be supposed to be propagated through the sympathetic, actual interference with these plexuses so as to directly cause death has not been observed.

CLINICAL MEMORANDUM.

A CASE OF LOCOMOTOR ATAXIA BEGINNING IN THE SACRAL CORD AND PRESENTING UNUSUAL SENSORY SYMPTOMS.

BY CHARLES J. ALDRICH, M.D.,
OF CLEVELAND, OHIO;
LECTURER ON CLINICAL NEUROLOGY, COLLEGE OF PHYSICIANS AND SURGEONS; NEUROLOGIST TO THE CLEVELAND GENERAL HOSPITAL AND DISPENSARY; NEUROLOGIST TO THE CLEVELAND CITY HOSPITAL.

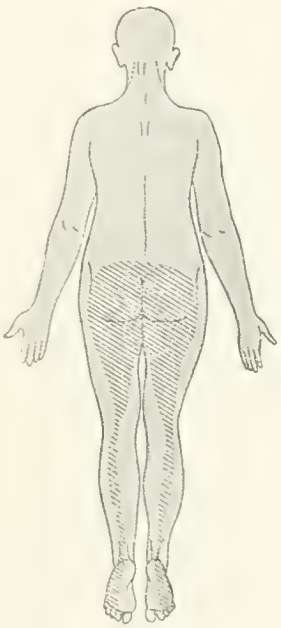
MRS. K. T., aged forty-seven years, white, widowed eleven years, United-States born, consulted me July 20, 1896, and gave the following history: Her father and mother both died of cerebral apoplexy between the years of sixty and seventy. Her several brothers and sisters are all strong, healthy people. She has never been sickly or weakly; on the contrary, has been a very healthy, hardy, hard-working woman. She has, however, suffered at intervals during the past seven years from severe headaches, accompanied by faintness and distressing spells of vomiting. She has never been pregnant, although her generative organs have seemed normal. She married twenty years ago. Fifteen years ago she contracted syphilis from her husband, who, eleven years since, died of syphilitic brain disease. Her primary manifestation consisted of multiple sores on the labiæ, which were not followed by secondaries, although she had six months' homeopathic treatment.

Three years ago she experienced some peculiar sensation in the rectum, which, she said, "Felt like a cannon-ball in my rectum which lay there dragging down my whole insides." She soon noticed some loss of control of the rectal and vesical sphincters, and later a decided unsteadiness of gait and posture, especially while in the dark or with the eyes covered as in the act of washing the face. At about this time she developed a peculiar sensitiveness of the skin to hot and cold water. Her bath, or in fact the contact of any object that could be said to have a temperature above or below that which the skin recognizes as normal, produced, not the former natural sensation, but a decided sensation of pain, that was slight or intense according as the water was warm or hot, cool or cold. This sensitiveness or perverted sensation of the skin was so great that the most careful regulation of the temperature of her bath failed to prevent the disagreeably painful effects of contact with water. This disordered sensory appreciation was general, but was less marked on the face. She also noticed that the skin over the buttocks, down the back of the thighs, about the anus, and the lower part of the vulva was insentient to touch. In this region she suffered from true fulgurant pains.

One year later, while combing her hair before a mirror, she was shocked to discover that she was totally blind in the left eye. She had experienced no other ocular symptoms.

She has suffered from laryngeal crises, especially as she was passing into sleep, which have been so severe at times as to threaten suffocation. All of these symptoms have gradually disappeared up to the present time, July 20, 1896, when she called to see me in reference to a pelvic tumor which she supposed was the cause of all her troubles.

FIG. 1.



The double shading shows the area of tactile anesthesia on first examination; the single lines show the area of the hypercryalgesia (or painful sensation to moderate degrees of cold), and hyperthermalgesia (painful sensation to moderate degrees of heat).

Examination.—She is an intelligent, well-nourished, good-looking woman, bearing her years well, and possessing good muscular power. Her gait is ataxic, posture poor, both knee-jerks absent, plantar, epigastric, pupillary, skin and pharyngeal reflexes all absent. Localizing power is diminished and sense of deep pressure is sensibly lessened. Muscular incoordination is present in all four extremities, but is less marked in the arms than the lower members.

She is markedly analgesic over the skin of the feet and the legs; calls a smart prick of a pin "your finger." This analgesia fades and disappears above the line of the ilia. She feels a light touch on the inside of the soles of the feet, but the outside of the soles are insensitive to pain and touch. A narrow line of tactile anesthesia extends upward on the back and the outside of the legs to join the

apices of the large saddle-shaped area of tactile anesthesia that covers the buttocks, as shown in the figure. The labiæ and inside of the vagina, urethra, and rectum are insensible to touch. She feels neither feces nor urine as they pass. The region about the clitoris is sentient, and she confesses to sexual desire.

The entire integument of the body and the mucous membranes of the mouth, nose, und vagina were particularly sensitive to the application of anything moderately warm or cold. Test tubes filled with water at any temperature between 115° F. and 60° F. were recognized as painful impressions only. If the temperature was above 115° F. she recognized it as hot; if it was below 60° F. it was called cold. If the temperature of the tubes was anywhere from 92° F. to 96° F. they were recognized as touch. So sensitive was the skin to temperature that, with the exception of the few and last-named neutral degrees that were felt as touch, any temperature between 60° F. and 115° F. was shrunk from and declared to be painful, *although its temperature character was unrecognized.* Temperature so hot as to be slightly painful but bearable by the skin of a normal person, brought screams from her, yet she assured me that it was not the pain of a burn, but "just a pain." When an ice-filled tube was brought in contact with her skin she cried out loudly, and sprang from the table. Questions elicited the statement that it was not the excess of cold but the electric sort of pain that caused her to shrink and cry out. Careful experiment, oft repeated, confirmed these findings, and the fact that her pain was proportionate to any departure above or below the nineties of the Fahrenheit scale.

Careful examination of the eyes reveals some interesting facts. Both pupils are absolutely inactive to the stimulus of light. While both eyes are uncovered they react to efforts of accommodation. Looking at a near object produces an over-action of the left internal rectus that turns the blind eye inward. Before she lost the sight of this eye she never had double vision. Unable to find any change in the disc that could be compared with gray atrophy, I asked Drs. Baker and Shackleton to examine the discs, and they reported no atrophy nor any discernible cause for her blindness. The pupils respond to mydriatics, but the left less readily than the right. The field of the right eye was contracted to neither form nor color, and its disc was normal.

Examination of the pelvic organs revealed an apparently normal uterus and adnexa. Seemingly attached to, and filling the right iliac fossa, was an immovable mass, feeling solid to the touch, perhaps a degenerated and calcified fibroid, but it was certainly not pressing on any of the large nerve trunks in such a way as to cause any, much less all, of her symptoms. Drs. Rossenwasser and Spurney examined her, and confirmed the opinion as to the absolute lack of relation between the tumor and the above described symptoms.

Like all such people who have some lesion or disease that with their limited knowledge is recognizable, she doubted my assurances that she was suffering from a disease of the spinal cord, and that her tumor had absolutely nothing to do with her disabilities, so she started the rounds to secure an opinion that coincided with her own and that included the tumor. Unfortunately she found such a person. She was assured that anyone ought to know that it was the pressure of the tumor on the spinal nerves that destroyed her sphincter control and interfered with her locomotion.

She was taken to a hospital, and the tumor, uterus, and ovaries were removed *per vaginum* by a homeopathic expert from Buffalo, who has since assured her *that he was never told that she had locomotor ataxia.* She recovered from the "very successful" operation in due season, and then returned to me for relief from a very distressing lot of symptoms that appeared at the time of her previous regular menstruation. Flushes, perspirations, etc., were not a dot to what her suddenly acquired menopause brought her in the form of fits of melancholia, real mania, and finally genuine epileptic spasms. Treatment has somewhat ameliorated the latter condition, but she became so violent a short time ago that she was arrested on an insanity warrant and sent to the State Hospital, from which she was transferred to the City Hospital.

April 13, 1897, I examined her, and found that she was completely insensible to a pin-prick over the entire integument except the eyelids; that loss of sensation to touch was general but less marked on the face and on the inside of the arms and forearms; that the disturbed sensation to temperature was practically the same; that the sensation of a cannon-ball in the rectum was the same, and that she then had lightning pains in the lower limbs.

October 20, 1897. I have learned by careful experiment that she can judge temperatures better than before; that her analgesia is now complete in both skin and mucous membranes; that she still has the lightning pains in the lower limbs; that she is more incoordinate in all her members, the increase being most marked in the arms; that because of a general and almost complete tactile anesthesia it is no longer possible to note the peculiar distribution that was so interesting on our first examination, and that her eye now presents a typical gray atrophy.

The apology for occupying so much space with a detailed report of this case is the extreme rarity of its clinical phenomena.

First. This is seen in its evident beginning in the sacral cord, as shown by the "cannon-ball" sensation; early loss of sphincter control and early occurrence of fulminating pains in the perineum and over the area of tactile anesthesia.

The rarity of tabes beginning in the sacral cord is evidenced by the fact that it is unmentioned by Hammond, Gower, Erb, Ross, Church, Leyden, Spitzka, and Hirt. Peterson[1] and Starr merely mention it as a rarity. Peterson[2] in referring to its occurrence compares its rarity to that of the cervical type. Of the latter I know of but two cases that have been reported in the United States,[3-4] and it is scarcely mentioned by foreign authors, once by Charcot[5] and once in Vulpian's "Maladies du Système Nerveaux." I am led to believe the sacral type very rare,

as I have been unable to find any reports of it other than those mentioned.*

That this is not a case of secondary tabes resulting from syphilitic meningitis, or new formation, or tumor pressing on the sacral segments, is shown by the lack of paralysis of the flexors of the ankles and toes and small muscles of the feet, and the irregular and erratic occurrence of the pains in the anesthetic areas.

Second. The disturbances of sensation are both unusual and remarkable. To Hitzig[6] is due the credit of calling our attention to the tactile anesthesia of the trunk in tabes. Laehr[7] has made by far the most exact and extensive study of this symptom. Patrick[8] and Burr[9] have recently contributed some very interesting and valuable observations on this hitherto little-noticed phenomenon. But in the publications of none of these authors or elsewhere can I learn of any case of the sacral type being studied in reference to trunk anesthesia,† and I believe this to be the first recorded instance of the anesthesia taking the saddle-shape of a lesion of the last segments of the cord. The rapid extension of the tactile anesthesia until it became general in sixteen months is rare and interesting. Complete analgesia is also extremely rare.[10]

The disordered appreciation of temperature is unique. Starr[11] claims priority in calling attention to this extreme sensitiveness to heat and cold as a symptom of tabes, and designates the sensitiveness to heat, *hyperthermalgesia*, and to cold, *hypercryalgesia*. According to him, the ability to appreciate the quality of temperature is not lacking, but the lack of quantity appreciation only. If the latter statement does him justice his nomenclature is wrong, and he is entitled to no credit, as Rosenthal,[12] Donath, and others have called attention to cases where the quantity of the temperature was misjudged, and the skin was hyperesthetic to a moderate degree of heat or cold. The terms used by some authors—*hypercyresthesia* and *hyperthermesthesia*—meaning respectively an oversensitiveness to cold and heat, correctly describe the symptoms put forward by Starr as new symptoms of tabes. In my case, however, the application of moderate degrees of heat or cold within certain stated limits produced *actual pain without its quality of heat or cold being recognized.*

To this condition it is proper to apply the names which Starr has proposed to designate conditions of the skin, wherein a painful sensation is produced by the contact of objects moderately hot or cold. At my last examination I learned that she was able to differentiate temperatures with much greater accuracy than before. It would be interesting to know if there has been an actual bettering of her temperature sense, or, as is more probable, an education of the nerves of the skin to differentiate by associating one kind of pain with heat and another with cold.

Third. The association of gastric with laryngeal crises, is unusual, although not to be compared with the rarity of crises of the clitoris which existed in this case. The patient confessed to having "spells" of most intense sexual excitement, accompanied by voluptuous sensations. She was very much distressed about these spells, and asked me if they were in any way connected with her disease. In the literature of tabes I have but once noticed this form of crises, and that by Eichorst, who quotes Pitres.[13]

Fourth. The fulgurating pains occurring in the areas of tactile anesthesia constitute an *anesthesia dolorosa*. Spitzka, Starr,[14] and others refer to the occurrence of fulgurating pains in the perineum, but I am unable to find any reference to their being largely confined to the anesthetic area.

Fifth. Dana[15] calls attention to the left eye being most frequently the first to be attacked by optic atrophy, and Knies[16] mentions the fact that one eye may be affected years before its fellow, but I am unable to find anything in the literature of tabes referring to a sudden loss of sight and no atrophy discernible one year later.

Sixth. The useless, cruel, and unnecessary operation performed on this poor woman by a more ambitious than learned gynecologist demonstrates the possibility of a tabetic, in the ataxic and paralytic stage, to undergo and recover from a capital operation as well as a normal person.

I have also been much interested in noting no apparent increase or diminution in the rapidity of the progress of the spinal symptoms since the operation, but have been pained to see a rapid advance of mental derangement result, as I believe, from the sudden and unnatural establishment of the menopause.

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* Since the above was written I have learned that Pineles (*Arbeiten aus dem Institut für Anatomie u. Physiologie*, etc., vol. iv.) has studied, clinically and pathologically, a case of tabes of the sacral cord.

† Hirt, "Diseases of the Nervous System," p. 646, mentions a case of tabes with a saddle-shaped area of anesthesia on the buttocks and extending down the thighs.

Christian Scientists in Jail.—A number of Christian Scientists at Americus, Ga., who refused to be vaccinated, were sentenced on November 17th by the Mayor's Court to terms of from fifteen to thirty days, and to pay fines of from $3 to $15.

MEDICAL PROGRESS.

An Application to Shorten the Period of Desquamation in Scarlet Fever.—WILLIAMS (*Boston Med. and Surg. Jour.*, September 14, 1899) advises an application to the skin of patients suffering from scarlet fever, in order to prevent the spread of the scales of epidermis which are supposed in part to disseminate the disease. For this purpose he recommends a mixture of 1 part of glycerin to 7 parts of a 15 volume solution of hydrogen dioxid. The latter should contain a little free hydrochloric acid. If the amount is very small some may be added but the mixture should not contain more than one-tenth of 1 per cent. of the acid. This mixture should be rubbed daily all over the patient except in the hair. If properly carried out the period of desquamation is shortened more than three days and the patient's stay in the hospital or in an isolating-chamber is reduced to that extent.

Objections to Certain Methods for the Reduction of Dislocation at the Shoulder Joint.—THOMAS (*Liverpool Med. Chir. Jour.*, July, 1899) has seen a large number of patients who have exhibited loss of power and loss of sensation in the arm following the reduction of a dislocation of the humerus. The musculo-spiral nerve was the most often involved, then the circumflex, ulner, and median. In every instance the patient was certain that the grasp of the hand before the operation was unimpaired. The author has never seen paralysis follow any other method of reduction than that with the foot in the axilla. In this method the nerves are forcibly compressed against the head of the humerus. Other accidents which may occur with this method of reduction are fracture of the ribs, fracture of the humerus, and damage to the vessels. A method of reduction similar to that of Kocher which is applicable in any form of dislocation consists in placing the patient upon a chair while the scapula is fixed by an assistant who stands on the opposite side of the patient and grasps the outer end of the clavicle with one hand and the axillary border of the scapula with the other. The surgeon grasps the patient's wrist with one hand and the lower end of the humerus with the other and quietly and slowly abducts the arm to a right angle with the body. Traction and outward rotation are commenced when the humerus is half way up. If the bone does not return to its proper position, traction is increased and the humerus may be slowly rocked from side to side or up and down. When the reduction is effected the arm is rotated inward and placed across the chest with the hand upon the sound shoulder. If the procedure is carried out slowly the pain is so slight that chloroform is rarely required.

Prevention and Cure of Ventral Hernia.—SMITH (*Lancet*, July 29, 1899) believes that ventral hernia after laparotomy is quite preventable. If allowed to develop it sometimes causes more trouble than the condition for which laparotomy was performed, and it also prevents other patients from undergoing operation through dread of a similar mishap. The measures for its prevention are: (*a*) leaving in the stitches a month if the patient is thin enough to allow the use of a through-and-through stitch; (*b*) using non-absorbable buried sutures when the patient is fat enough to require two layers of ligatures; (*c*) discarding the abdominal drainage-tube after pelvic operations and, when necessary, draining by the vagina; (*d*) securing accurate coaptation of the cut edges by marking the places where the stitches are to go before the incision is made; (*e*) taking care that no peritoneum is curved up so as to come between the muscle and fascia of opposite sides. Hernia can be cured if slight with a single buried silkwormgut purse-string suture. In larger cases the edges of the ring should be split until the recti muscles are exposed from top to bottom. These should be sutured with buried silkworm-gut.

THERAPEUTIC NOTES.

Treatment of Gonorrhea as Carried Out in a Military Hospital During the Last Sixteen Years.—VOGL (*Münch. Med. Woch.*, August 1, 1899) reviews the different forms of treatment of gonorrhea which have been carried out in the military hospital at Munich since 1882. They include all those methods which are still in vogue as well as some which have been given up. Among the discarded remedies may be mentioned hydrochinon, iodoform, thalin, zinc, and sozoidolicum. Some of these were found useless, while others had a direct injurious effect. Later the opinion obtained ground that the character of the injection was indifferent so long as it was made in the right way. In the year 1893 the principles of Neisser were taken up and patients were treated by injections of solutions of nitrate of silver 1 to 5000. In the next year permanganate of potash, 1 to 4000, and zinc sulphocarbolate, 1 to 180, were tried. In the following year about 200 patients were treated with nitrate of silver of a strength of 1 to 3000, while ice-bags were applied if there was an excessive degree of inflammation. In the year 1897 36 patients were treated with protargol, and the results of treatment when begun sufficiently early were quite satisfactory. Looking back over the records of this long period, the author finds that the average duration of treatment in the days before the use of specific antigonorrheal remedies was about forty-five days. After the introduction of injections of nitrate of silver the average duration was forty-five to forty-seven days. Niessen, who was in charge of the hospital in 1896 and 1897, and who treated patients with various silver salts, reported an average duration of treatment of only forty days, but he discharged twenty men as not cured. In the following year, when the patients were treated with nitrate of silver, potash permanganate, and later with protargol, the average duration of treatment was forty-two days, but seven men were discharged uncured. In the light of these statistics the newer remedies do not seem to be much of an improvement over the older plan of hygienic and dietetic treatment—absolute rest, milk diet, and the application of cold in the acute stages. The duration of gonorrhea depends for the most part upon the condition of the individual who has been infected. It is certain that the specific remedies have failed to fulfil the hopes of their early advocates.

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SATURDAY, NOVEMBER 25, 1899.

THE PLAGUE AND OUR LESSER PORTS.

WE have insisted over and over again during the last four months, ever since assurance came of existence of genuine bubonic plague at Oporto, that the disease would surely find its way to this country. It has reached New York Harbor. Let us hope that it will not find its way into some less guarded port. That is the danger and it is a serious one. The disease is now in the track of commerce at more points than are perhaps imagined. At least one other vessel from Santos, an Austrian Lloyd steamer bound for a Mediterranean port, reported toward the close of last week that the disease had broken out on board and death had occurred. Rio de Janeiro in Brazil is also infected with the disease and is liable to export it.

Very little has been said recently about the plague at Asuncion. A correspondent who is in close relations with that part of South America has a letter in our columns this week from which it is clear that the disease has probably gained a firm hold in that unsanitary city. None of the South-American seaports are in a position to defend themselves effectually against the importation of the disease and all of them are in such an unsanitary state that it will be next to impossible to eradicate the disease once it has gained an entrance. We may look in the next few weeks for reports of the occurrence of the disease at many other South-American ports besides those already affected. The plague has reached the American continent to stay at least for months.

Under present conditions the danger of the plague invading the United States through the large ports of entry is not very great. Quarantine regulations are too stringent and are too strictly enforced to allow this, beside quarantine officials have been put on their mettle by the urgency of the danger. At the lesser ports, however, the possibility of entrance of the disease can not be excluded with such ready assurance. It is through unimportant commercial ports, where it was least expected that the plague has forced its way in the present epidemic. Oporto is of very little importance in Europe. Asuncion is so far from the coast in South America that the report of plague there seemed absurd on the face of it. Santos is by no means the most important port of Brazil. There is more and more reason in the present situation for the warning we have sounded before, "Guard our lesser ports."

GALL-STONE SURGERY—A PROSPECT—A WARNING.

THE recent presentation of the surgery of the gall-bladder, in the paper of Dr. Maurice Richardson of Boston, before the Section on Surgery of the New York Academy of Medicine (see page 698 of this issue) elicited an unusually instructive discussion. It was participated in by men whose practical experience in this line of work most entitles them to speak with authority on this subject. The paper included in its scope all the biliary apparatus beyond the absolute confines of the liver, and the discussion was equally wide.

In reviewing, about this time last year, Professor Kehr's work on the surgery of gall-stones, we said that this subject was rapidly claiming a most important place in the attention of the general surgeon. Already statistics show that five times as many operations are being done upon the biliary passages as were being recorded five years ago. The day of palliative medicine for gall-stones is rapidly passing.

Each renewed attack that is allowed to occur in any individual case, besides presenting certain very definite actual dangers to life, is, unfortunately, complicating the field of the probably inevitable operation. To echo Dr. Richardson, "Nature is a poor operator in these cases; what the surgeon can accomplish in a few minutes of clean-cut work with the knife she takes years to do, and then does not always do it satisfactorily or even successfully."

An operation upon the biliary tract is always a serious procedure, and in cases in which active pathological processes have been at work during many years' experience has shown that what may be called primary operations for gall-stones, that is, during the early period of their presence, have very little danger in them. The conclusion is self-evident and the surgeons are acting accordingly.

As to the dangers of the operation, hemorrhage was insisted on at this meeting by men of the widest experience as perhaps the most serious complication. Hemorrhage from large vessels is not to be feared so much as a persistent capillary oozing. Murphy of Chicago thinks this tendency to bleed is due to the jaundice, and relieves this condition before operating further. Curtis noted it especially in a case of beginning cirrhosis of the liver, and attributes it to the obstruction to the portal circulation caused by the sclerotic changes in that organ. Malignant disease in the tissues undoubtedly favors bleeding. These are factors that must be borne in mind; and in addition thereto any and every manipulation beyond those absolutely necessary to accomplish the relief for which the operation is undertaken must perforce be avoided. Ideally complete operations are not adapted to the present stage of operative procedures on the bile passages.

The experience of the Boston surgeons is quoted as distrusting completely the closure of the gall-bladder and of the abdominal wall above it, even in simple uncomplicated cases of gall-stones. Suture of the bile-ducts has proved equally unsatisfactory in a number of hands. Incision, removal of the stones and drainage have so far given the best results.

One of the most important features of the discussion is the consensus of opinion that gall-stones may cause an induration of tissues and a tense distention of the gall-bladder that may very deceptively simulate maglignant disease in this region. An exploratory incision under these circumstances is counseled by all. Even after the opening of the abdomen, gross appearances must not be allowed to preclude surgical procedures if any measure of relief can be afforded the patient. Often it will be found that after such relief, the appearances of malignancy subside and seemingly complete recovery occurs.

Everything in the present aspect of gall-stone surgery encourges the idea that early operative intervention in these pitiable cases is destined to confer a boon on suffering humanity. There is the danger that as in the case of the uterus and adnexa, may we say also the appendix, a certain furor operandi will lead to unnecessary operative interference, to too extensive dissection, to mistakes of diagnosis due to statistical anxiety, to fatalities that are unjustified. The sad experience of too much operating in gynecology and of excessive appendectomy may serve as a warning in this new branch of surgery that is just entering upon its modern development.

ECHOES AND NEWS.

The Automobile in Practice.—An English medical man has driven his "motor-car" 5000 miles in a year, at a total running expense of $130.

First Woman Doctor in Germany.—Agnes Nacker is the first woman doctor admitted to general practice in Germany. She resides in Berlin. It has taken the Prussian Cabinet two years to decide her case.

Dengue Fever in Manila.—Major Woodhull, Chief Surgeon at Manila, has reported that "a sharp and quite general epidemic of dengue has prevailed in Luzon for some months past, and it appears to be spreading to the south.

Snake-bite in India.—Nearly 22,000 deaths from snake-bite were recorded in India in 1898. The efficiency of the new serum is now fairly well established, but the price of a dose—$1—puts it beyond the reach of most of the victims.

Surgeon Wilkinson Going to Manila.—Acting Assistant Surgeon H. Brockman Wilkinson, United States Army was ordered, upon the recommendation of the surgeon-general, to accompany the Forty-first Infantry, United States Volunteers, on the transport "Logan," which sailed on November 19th for the Philippines.

The Health of Immigrants.—The Bureau of Immigration at Washington is preparing plans for a more rigid examination of intending immigrants. The way in which these people are examined by medical officers abroad has

been investigated by officials of the bureau, and it has been found that in many cases the examination is a farce.

Medico-legal Department in Manila.—General Otis has established a medico-legal department in Manila in charge of two Filipino physicians, Drs. José R. Hidalgo and Gregorio Singlan. An emergency ward and dissecting-room have also been established. The department is to be subject to the orders of the Supreme Court and the tribunals of justice in the city of Manila.

The Southern Surgical and Gynecological Association.—The twelfth annual meeting of this association will be held at the St. Charles Hotel, New Orleans, La., on December 5, 6, and 7, 1899. The program is of unusual interest, covering a large range of surgical subjects. Out of forty-three numbers on the program all but six treat of surgical conditions. St. Charles Hotel will be the headquarters for the association. Reduced railroad rates have been secured.

Officers of the New York State Association of Railway Surgeons.—At the ninth annual meeting of this association which was held at the Academy of Medicine Thursday, November 16, 1899, the following officers were elected for the ensuing year: President, Dr. J. L. Eddy, Olean, New York; vice-president, Dr. W. R. Townsend, New York City; second vice-president, Dr. A. P. Jack, Canisteo, N. Y.; treasurer, Dr. P. D. Mills, Middletown, N. Y.; secretary, Dr. C. B. Herrick, Troy, N.Y. (re-elected). An account of the proceedings of the meeting, which was a very successful one, will be published in a subsequent issue of the MEDICAL NEWS.

Enthusiasm of English Women for Positions as Army Nurses.—The nursing corps is inundated with applications not merely from nurses but from scores and hundreds of women from private life, including numbers of officers' wives and daughters and society women of prominence. The War Department has, however, very wisely and politely explained that it cannot consider these offers from volunteers having had no previous experience in nursing, however grateful it is for the patriotism implied by their willingness, until the supply of trained material is exhausted. And as the Army Medical Service has a reserve of retired nurses similar to that of the fighting strength there is a considerable amount of trained available supply still unused. Numbers of the applications from trained nurses have had to be declined, or at least postponed, on account of nurses having had special military experience.

Sir William MacCormac's Duties as Military Surgeon.—Whatever title of military command may be conferred upon Sir William MacCormac in his new capacity as military surgeon, it will be found to be no mere honorary designation, for the Army Medical Corps for South Africa alone, including bearers, dressers, hospital attendants and the like, reaches the imposing total of nearly 2300 members, practically two regiments of these soldiers of peace. In addition to these there will be the nursing staff which has a present strength of over fifty and will be brought up to nearly one hundred, and a nearly equal number of native hospital orderlies accompanying the Indian troops. The patriotic example of the president of the Royal College of Surgeons has already borne even more fruit than anticipated, as one hears on all hands the willingness expressed by members of the medical profession of all degrees of prominence and occupation to volunteer for service in South Africa.

Loveliness.—This is the name of a little book written by Elizabeth Stuart Phelps, in which are depicted the experiences of a little girl and a little dog. The dog has been christened by the extravagantly sentimental name of Loveliness. The little girl is greatly attached to the little dog and the little dog evidently reciprocates the affection. The little dog suddenly disappears; has been stolen by a tramp. The little girl thereupon begins forthwith to pine away almost to the point of death. At this juncture the little dog is rescued from the hands of an experimenter in physiology at a laboratory where he is about to contribute the greatest benefit to mankind that it falls to the good lot of a dog to contribute. The little girl and the little dog both get well and live together happily ever after. The book was evidently designed as a sentimental appeal to the delicate sensibilities of our antivivisectionist friends. The little book will probably not do any harm or any good. For the sake of saving one life the little dog missed the opportunity of his life—of contributing what he could for the rescue of tens of thousands quite as precious little girls from untimely graves.

The Management of the Public Hospitals at St. Louis.—An ordinance is under consideration by the municipal assembly of St. Louis providing for the management of the city hospitals by creating a "Visiting Hospital Staff" which shall constitute a board of hospital administration. The Visiting Hospital Staff shall be appointed by the Health Commissioner, subject to the approval of the Board of Health. The members of this staff shall be reputable practising physicians, and selected from the faculties of the various medical schools of the city in proportion to the medical students of each. One section or subcommittee of the visiting staff shall visit each of the hospitals of the city daily during a definite part of the year. Said visiting hospital staff, with the co-operation of the resident staff of internes, shall have the entire responsibility for the treatment of all patients who shall be assigned to the care of the members of the hospital staff of each school according to the number of students, unless the patient expresses a preference for some particular school. It shall be the duty of the board to provide for and to conduct clinical instruction at the hospital for the benefit of medical college students, apportioning such work, as to instructors and hours, according to the number of students in each school. Clinical instruction at the hospital shall be open to all licensed physicians and stu

dents of reputable medical colleges on payment of $5.00 per year.

Liberal Salary for English Consultant Army Surgeons.—It will be gratifying to the self-respect of the profession to learn that the leading consultants, who have upon invitation volunteered for service in South Africa, Sir William MacCormac and Mr. Frederick Treves have been placed upon a salary proportionate to their rank both in the Army and in medical circles. The sum of $25,000 per annum with allowances for horse and other expenses, although in no sense an equivalent of the income actually sacrificed by these gentlemen, is still a significant and grateful proof of the importance attached to their services by the Army authorities. The high sense of duty which led to the volunteering of Mr. Treves, who, we are informed, was urgently invited to undertake the post by the War Office, will be even more highly appreciated by the profession when it is remembered that scarcely six months have elapsed since he resigned his teaching position at the London Hospital on account of the pressure of his enormous operative private practice.

The third consulting surgeon, Mr. G. H. Makins, although less widely known to the American profession, has a high standing among his confrères in London and is one of the leading surgeons at St. Thomas' Hospital. As Sir William MacCormac is also on the staff of the same hospital, it was probably his knowledge of Mr. Makins' sterling qualities which led to his selection. The students of St. Thomas' Hospital School, naturally greatly elated at the double honor conferred upon their college, gave both these gentlemen a most enthusiastic farewell ovation at Waterloo Station.

Surgeon-General Sternberg's Annual Report.—The annual report of Surgeon-General Sternberg of the Army has been made public. General Sternberg considers that "in times of peace we should prepare for war." This preparation should include a corps of trained medical officers larger than is absolutely necessary for the army on a peace basis, and systematic instruction in military medicine and hygiene for the medical officers of the National Guard as well as for those of the regular army; also, instruction of line officers in the elements of hygiene, and especially in camp sanitation. It should also include the establishment of camping-grounds in various parts of the country having an ample supply of pure water, a proper system of sewers, etc. If our volunteers, states Dr. Sternberg, could have been assembled in such camps during the late war a saving in lives and money would have resulted which would, without doubt, have demonstrated the economy of such preparation for war in time of peace. The number of deaths, including the regulars and volunteers from May 1, 1898, to June 30, 1899, is given as 6619. Of these 496 men were killed in battle, and 216 by accident, 202 died from gunshot wounds, 2774 from typhoid fever, 476 from malarial fever, 359 from pneumonia, 342 from diarrhea and dysentery, and 185 from yellow fever. General Sternberg attributes the prevalence of typhoid fever to the unsanitary condition of many of the camps where the disease became epidemic, and the failure to suppress the disease to the inexperience of regimental and line officers and the want of discipline among the men. General Sternberg does not consider a change in the ration among the men necessary. Dr. Seaman, however, maintains its utter inappropriateness in the Philippines.

The Plague Situation has all at once become of the deepest interest to us here in the United States from the appearance at the Quarantine Station of New York harbor of a vessel from Santos, Brazil, with cases of the disease on board. One death from bubonic plague occurred while the steamer was on its way North, and two persons, the captain and cook, were sick with the disease when the ship arrived. There is no danger, according to the quarantine authorities, of the disease reaching the city itself. The passengers and crew will be kept under observation until all danger is past, and the cargo will only be landed after the most careful precautions. Another vessel sailing from Santos, the Austrian Lloyd steamer "Berenice," bound for Triest, Austria, reported, when it touched at the Cape Verde Islands toward the end of last week, that plague had broken out on board, and that three of those attacked had died. At Santos itself the disease continues to spread, and the sanitary condition of the town is so defective that little hope exists of getting the disease under control for some time at least. Bubonic plague undoubtedly exists now also in the suburbs of Rio de Janeiro, and in the filthier parts of the town itself. At Asuncion, in Uruguay, the disease continues to spread. A correspondent this week gives a good idea of the hopeless state of affairs there. At Oporto from three to five new cases a day are being reported. Last week the director of the bacteriological institute of the city, Dr. Camara Pestana, died of the plague. He contracted the disease either while attending patients striken with the disease or while making bacteriologic investigations on the plague bacillus. The Government of Portugal is being aroused at last to a realization of the awful significance of the situation. One day last week the king of Portugal, King Charles, visited the plague hospital in order to encourage the sufferers and restore the courage of the populace, who now begin to fear the disease very much.

MEDICAL MATTERS IN NEW YORK.

MORE NURSES FOR THE "MAINE"—DIVISIONS BY THE HEALTH BOARD—A CASE OF ANTHRAX—TOOK POISON AS MEDICINE—WOMAN'S COMPLAINT AT BELLEVUE—PRESERVATIVES IN BEER—APPEAL FOR HOSPITAL WORK—ATTEMPTED TENEMENT-HOUSE REFORM.

AMONG the passengers who sailed on November 20th to join the hospital ship "Maine" were Dr. Hastings and twenty-nine dispensers, orderlies, and men nurses.

The Health Board has divided the Borough of Brooklyn into eleven hospital districts, and has promulgated a set of rules for more efficient operation of the ambulance service.

Philip Cooney, a 'longshoreman, died in the Long

Island College Hospital on November 14th of anthrax. The microscope established the diagnosis. Cooney had been at work in a warehouse on the East River front, handling hides, grain and hay. He had had a scratch in his neck, and no doubt this was the point of inoculation.

A young woman nearly lost her life on November 18th by swallowing carbolic acid in place of a tonic which she had been taking. It was a case of mistaking one bottle for another. Legislation requiring that poisons be dispensed in corrugated bottles would go far toward preventing such accidents.

William Graham went to Bellevue on November 15th and asked to be placed in the alcoholic ward. His request was granted, but there being thirty patients and but twenty-eight beds in the ward, he was told to "double-up" with another patient. This he refused to do. Instead he left the hospital, went home and committed suicide by cutting his throat. His wife complained bitterly that if he had been detained at Bellevue this would not have happened. It was, however, explained to her by Dr. Richards that her husband was not forced to leave the hospital, but as a voluntary patient he could not be compelled to stay.

At the meeting of the Special United States Senate Committee on Manufactures, of which Senator William E. Mason of Illinois, is chairman, held on November 13th at the Imperial Hotel, Max Schwarz, consulting brewer and director of the Brewers' Academy, recommended the use of preservatives in beer made for export, and said that those now used were not harmful. He declared that one-half ounce of salicylic acid to a barrel of beer was sometimes used, and that he had found bisulphate of lime in English beers, and a trace of sulphurous acid in some American products. He said that the Pasteur method of boiling the beer in bottles was not a reliable preventative of secondary fermentation. He had plenty of colleagues present to sustain his statements.

At a meeting of the Trustees of the Hospital Saturday and Sunday Association held on November 14th in the Charities' building, the General Agent reported upon the preparatory work for the coming collection in the churches, synagogues, trades and exchanges. The work is well advanced, and it is anticipated that the collection, which was over $70,000 last year, will, under the impulse of prosperity, reach a total of $100,000 this year. The money collected through this association is distributed on the basis of the number of days of free treatment given by each hospital to the needy poor. According to the last report of these hospitals to the association, they cared for 34,740 patients, of whom 21,052 were free patients unable to pay anything. In addition to this free-bed service, the associated hospitals gave treatment to 300,995 out-door or dispensary patients.

It is clearly set forth in the report of the Central Council of the Charity Organization Society for the year ending June 30, 1899, that the brief submitted to the Building Code Commission by the Tenement-house Committee of the Society has been utterly disregarded by the Commission. The brief contained fifteen definite recommendations, each accompanied by a statement setting forth the reasons for the recommendation and the advantages to be gained by its adoption. The result of their adoption would have been increased light and air, secured by large air-shafts, increased protection against fire, the supply of bathing facilities, and other changes, all intended to be conducive to the welfare and the health of the poor of this city. The Building Code Commission will not permit such changes to be made, although the press, the philanthrophic societies, the architects, and all good citizens approve them. A tenement-house exhibition will be held early in 1900.

The Health Department submits the following report of contagious diseases for the week ending November 18, 1899: Measles, 248 cases, and 12 deaths; diphtheria, 274 cases, and 46 deaths; laryngeal diphtheria (croup), 15 cases, and 9 deaths; scarlet fever, 136 cases, and 10 deaths; chicken-pox, 19 cases; tuberculosis, 125 cases, and 151 deaths; typhoid fever, 67 cases, and 22 deaths; cerebrospinal meningitis, 2 deaths.

MEDICAL MATTERS IN PHILADELPHIA.

[From Our Special Correspondent.]

COINCIDENT MALARIA AND ENTERIC FEVER—GRAVE CHARGES OF BRIBERY IN THE STATE BOARD EXAMINATIONS—PROSECUTION OF "OLEO" DEALERS—ADDITIONAL MEDICAL INSPECTORS TO BE APPOINTED—A DEATH FROM ACCIDENT IN THE HOT-AIR TREATMENT—LARGE ENDOWMENT FOR THE EPISCOPAL HOSPITAL—DR. JOHN B. DEAVER'S RESIGNATION FROM THE PHILADELPHIA HOSPITAL—DEATH OF DR. ALBERT FRICKE—MUTUAL-AID SOCIETY'S ELECTION OF OFFICERS.

PHILADELPHIA, November 18, 1899.

AN undoubted instance of concurrent enteric fever and malarial infection in the same patient was reported by Dr. J. Dutton Steele at the last meeting of the Section on General Medicine of the College of Physicians of Philadelphia, held November 13th. The patient, a man twenty-three years of age, first came under observation on the fourth day of the disease, presenting typical symptoms of typhoid, and such corroborative signs as splenic enlargement, rose-spots, prompt reaction to the serum-test, and a positive diazo-reaction. On the 21st day of the illness crisis occurred, the patient having a vigorous rigor, with a rise of temperature to 104° F. Six hours after the chill the patient's blood was examined, and a few hyalin and slightly pigmented, intracellular, tertian malarial parasites were found; the enlargement of the spleen became much more striking after the chill. Under appropriate treatment with quinin the patient made an uneventful recovery. Dr. Steele drew attention to the very pertinent fact stated by the patient that seven days before the occurrence of the malarial symptoms he had been severely bitten by mosquitoes. Of the records of 1900 hospital cases of enteric fever occurring in soldiers during the Spanish-American War, collected by the speaker, coincident malarial infection was found to exist in three per cent. of the total number.

Certain of the local newspapers continue to voice all sorts of weird and astonishing rumors anent the "startling revelations" promised as the outcome of the investi-

gations now being made concerning the bribery charges in the late examinations held by the State Board of Medical Examiners. Political influence is alleged to have played no modest rôle in the scandal, for it is said to have secured for more than one protégé of the State "machine" true copies of the examination papers well in advance of the time of the examinations. Physicians are quoted as declaring that direct bribery will secure from mysterious sources the examination questions, provided the pecuniary inducement is sufficiently great to meet the requirements of the briber. State legislators are alleged to have remarked that it is an easy thing for them "to take any man through the examinations," for they "have already done it." Stories are told of one progressive medical institution in which it is reported that a fund of $500 was raised by a clique of its students to "purchase" the official papers of the State Board last spring.

These charges, whether true or false, leave a nasty taste in the mouths of the laity, and it is hoped that they may be speedily and utterly refuted, for the very existence of such rumors, scandal, pure and simple, though they may be, sets a certain degree of reproach upon the medical profession at large, by reason of these reflections upon the honesty of the medical student body. The president of the State Board is vigorously pushing these investigations, and the charges, if substantiated, will result either in the re-examination of a large number of last year's graduates, or the summary forfeiture of their licenses to practise medicine in Pennsylvania.

The prosecution of dealers who attempt to palm off on the public oleomargarine as pure butter is still continuing in all sections of the city, and almost daily arrests and prosecutions are being made, followed, happily, by a large percentage of convictions of violation of the pure food laws. In the present series of prosecutions fourteen indictments have been made in the United States Court, and no less than ninety other cases have been brought to terms in the Court of Quarter Sessions.

The Board of Education has made arrangements with the faculties and trustees of the medical colleges and hospitals of this city for the formation of a corps of medical inspectors, to visit each day the public schools, and make a thorough personal inspection of all school children who may show symptoms of illness. The work of these supernumerary inspectors will supplement the duties of the regular medical inspectors attached to the Bureau of Health, whose time is so occupied at the present moment with the care of diphtheria and other infectious diseases that they are unable to give proper attention to the very important prophylactic duty of school inspection.

An illustration of the dangers which may attend the application of the hot-air method of treatment is found in the reported death of a patient in one of the city hospitals from burns received while endeavoring to free his limb from the intense heat of the apparatus with which he was being treated at the time of the accident. The patient, a sufferer from rheumatism, is reported to have become unruly and excited during the treatment, and, maddened by the heat and by fear of the procedure, kicked the apparatus from the hands of the attendant, overturning it upon himself. His clothing became ignited, and before the flames could be extinguished the man received burns about the upper part of the body, from which he died several days after the accident.

By the will of George W. Rexamer, which was admitted to probate during the present week, an estate valued at between $150,000 and $200,000 is devised to the managers of the Episcopal Hospital, after the death of the donor's wife and sister-in-law, to whom the income of the estate is left during their respective lives. The principal bequeathed to the Episcopal Hospital is to be used for the erection of a ward or building to be known as the "Rexamer Ward or Building," as the case may be.

Dr. John B. Deaver has tendered his resignation as a member of the visiting staff of surgeons of the Philadelphia Hospital, to take effect immediately. After accepting the resignation the Board of Charities (the governing body of the hospital) at once adopted an amendment to the rule fixing the number of members of the various visiting staffs of the hospital, so as to reduce the number of visiting surgeons from ten to nine. Thus, no successor to Dr. Deaver will be appointed, and the applicants for his former position, though strongly backed, were forced to face a technicality from which there was no appeal, for no vacancy exists.

Dr. Albert Fricke, one of the oldest living physicians in this city, died on November 17th, at the age of eighty-seven years, after a protracted illness, which, nevertheless, did not interfere with the performance of his professional duties until just before his death. Dr. Fricke graduated from the Medical Department of the University of Pennsylvania in the class of '35, and was associated during an earlier part of his career with the Pennsylvania and German Hospitals.

At the last meeting of the Mutual-Aid Association of the Philadelphia County Medical Society, held during the present week, the following officers were elected to serve for the ensuing year: President, Dr. John B. Roberts; vice-presidents, Drs. M. S. French and N. Hickmen; secretary, Dr. M. O'Hara, Jr.; treasurer, Dr. Joseph S. Neff. Nine directors, to serve for terms of three, two, and one years, were also chosen.

Dr. George Fales Baker has given the sum of $5000 to the University Hospital to endow a bed in memory of his father, Alfred Gustavus Baker.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

INEFFICACY OF THE INEBRIATES ACT—THE "MERCIFUL MAUSER" BULLET—FIVE DEATHS FROM ALCOHOLISM—SUCCESS OF CAMBRIDGE MEDICAL SCHOOL—AN ARCHBISHOP'S PLEA—SNAKE BITES IN INDIA—DR. JOHN ARLIDGE AND HIS WORK.

LONDON, NOVEMBER 12, 1899.

IT is a matter of serious regret to our profession, the world over, that the new English "Inebriates Act" remains to a large extent a dead letter on the Statute-

books. It was hailed, and rightly, as the crowning triumph of the life and work of the late Dr. Norman Kerr, and final justification of the views so long held by our profession, that the drunkard was to be treated rather as a patient than as a criminal. The provisions of the law were admirable, but as already alluded to in our former letters no arrangements were made for providing the funds for the construction of Detention Asylums suitable for this class of case, and disgraceful to state, this condition of affairs remains unmodified with the exception of a few cities where the local authorities have had the enterprise to provide such homes. Elsewhere the commitments under this Act have simply the choice between going to private institutions qualified to receive them or being sent to an ordinary prison. And as the private institutions aforesaid can only accommodate about a tenth of the number convicted, the result is, that magistrates very properly objecting to sending cases of this type to jail for an indeterminate period, either refuse to convict or go through the form of conviction, and then finding no accommodation other than the regular prisons, suspend the sentence. Several cases of this distressing miscarriage have occurred within the past week, one at Lancaster in which the drunkard was solemnly sentenced to three years' detention in an inebriate asylum. No such asylum was to be found in the County, and the man was simply sent to jail while the magistrate communicated with the Home Office. Three years in jail would certainly be about as wasteful and useless a remedy for chronic inebriety as anything that can well be imagined.

The reports from the seat of war fully endorse the reputation of the "merciful Mauser" bullet, which it won in our recent campaign in Cuba. It makes a clean wound with no splinters and passes directly through either the limb or part of the body, without lodging or twisting from its course, so that unless a vital organ is directly penetrated few complications develop and the wound heals with remarkable rapidity. As a weapon in civilized warfare, where there is no danger of the wounded being butchered, it would seem almost ideal; resulting in either a clean kill or a disabling wound which is rapidly recovered from, and in any case causing an amount of pain which is a mere trifle compared with the ragged wounds of the older bullets. The only exception to these clean and excellent results is in the case where the bullet is so much spent that its velocity is markedly diminished, or where, from ricocheting from the ground or rocks the nickel cover becomes broken, in which case it spreads and splinters as badly, or in some cases even worse than the old-fashioned soft bullet.

A further illustration of the double tendency toward alcoholism in a certain class of the community, in the direction of greater moderation and a more general use of beers and light wines, and another in another class towards the greater excess in the consumption of the spirituous liquors, has just been furnished by the recent experience of Glasgow. So great is the increase among a certain class of the working people not only in the consumption of whiskey, as pointed out recently by the "Lancet," but also in the intemperance in its use, that several manufacturing firms have found it necessary to change their pay day from Thursday to Saturday, in order to give their employees Sunday to sober up in! Unfortunately it would seem that the granting of this additional lee-way had resulted in even more unrestrained indulgence than before, for the Police department of Glasgow makes the appalling report this week past that no less than five persons were found dead in their beds on Sunday morning as the result apparently of excessive indulgence in alcohol the night before. If this rate be kept up, it would certainly seem as if Dr. Archdall Reid's theory, that alcoholism was diminishing itself by eliminating the intemperate element in the community, was about to receive a practical demonstration.

All who have noted the magnificent manner in which the University of Cambridge, chiefly under the direction of that master mind, Sir Michael Foster, has been gradually building up a School of Medicine upon the broadest and most modern and scientific of lines, will be delighted but not surprised to learn that it has already, this year, achieved the distinction of the enrolment of the largest number of students for the full medical course than any Medical School in the United Kingdom. This is not only a triumph of a scientific and philosophic spirit in medicine but ought also to serve as a much needed and most valuable incentive to the great London Medical Schools which are thus distanced in spite of their magnificent clinical opportunities, to look to their laurels and reform their methods. The success of the Cambridge Medical School has been due partly to the fact that it is in the hands of broad and liberal-minded scientists, instead of, to too great an extent, in this city in the care of busy consultants obliged to consider many of its problems with a view to the "main chance," but secondly, if not chiefly, that it is absolutely unhampered by any petty jealousies and narrowness which so deplorably mark the work of the London Schools. Without prejudice in favor of its own graduates or even its own nationality, where it has seen a great mind in any part of the realm of medicine or in any country it has properly availed itself of his services, and its career of success is only just beginning.

An address which has attracted much attention in medical circles was that of the Primate of the English Church, the Archbishop of Canterbury, at St. George's Hospital Medical School, where he presided at the distribution of prizes. With the intensely practical turn which marks all of Dr. Temple's utterances, he called attention to the significant fact that while the sum of truth to the theologian was to some degree fixed and determined, to the scientist it was not and could never be so. Hence he vigorously urged not merely the desirability but the absolute necessity of continual study, investigation and self-improvement upon the part of the medical man all the days of his life and practice, an appeal which will do much to further the incipient growth of the post-graduate spirit in the minds of the English profession.

An astonishing impression of the relative helplessness of man, the animal, in the tropics, in the face of the terrible foes which he has to contend with among the other forms of life is produced by the recent report published from India

that no less than 25,000 deaths have occurred during the past year by the attacks of wild animals or by snake bites. We are, however, warranted as medical men and students of human nature in exercising a little healthy scepticism as to the actual character and species of "wild beasts" and "snakes" concerned in this great mortality. For it is, of course, one of the open secrets of medical men practising in the tropics that "snake-bite" is an extremely convenient term for covering the sudden disappearance or discovery of the corpse of any individual whose room would be more welcome than his company. Under a tropical sun the frightful rapidity of putrefying changes after death from any cause and the distortions due to them are absolutely indistinguishable within 24 or 28 hours from the very similar ones produced by the toxins of snake-bite. And many painful cases have occurred, for not only members of the native community but even European officials and members of our own guild have suddenly died in out-lying stations from this alleged cause, and long before expert examination could be made of the body it was one mass of putrefaction from which no evidence of the administration of poisons or even of the presence of stab wounds of moderate width could be elicited by examination. From the days of Joseph and his brethren "some evil beast hath devoured him" has been the most convenient excuse of the murderer, and the increased security of modern life has been due in no small measure to the fact that its conditions have rendered these two convenient explanations absolutely inadmissible and practically made every death traceable to some definite cause that could be detected on post-mortem examination. What possible headway could we make with food poisonings and drug poisonings other than metallic salts, if it were possible to set up snake-bite as an explanation of the presence of toxins and ptomaines?

Another hero reformer of our profession, whose reward however consisted, as is generally the rule with us, in the consciousness of having done his duty, rather than in fame or other emoluments, has just passed away in the death of Dr. John Arlidge of Stoke. His patient researches into the dangers of modern industries were the beginning and the foundation of the movement for the protection of the working-man which culminated in the Factories Inspection Act of England. Practising as he did in the midst of the Potteries where the fearful results of lead-poisoning in those engaged in this industry were brought to his notice, Dr. Arlidge carefully studied the situation, collecting information and searching out remedies, and by persistently bringing his results before the public succeeded in opening their eyes to the fearful risks which attended certain occupations. These were, of course, at first declared to be absolutely inevitable, one of the penalties of modern civilization and so forth. But Dr. Arlidge would not have it so, and time has abundantly vindicated his position and shown that with a few exceptions almost every one of these risks can be avoided by proper ventilation, cleanliness and care on the part of the employer and employee. And as another of the illustrations of the strength of right in this world, by which the physician is so often cheered, this improvement has not only diminished the mortality of the workers and increased their general health and comfort but actually also improved the effectiveness of the industries concerned instead of crippling them, as the almost unanimous outcry was at first.

THE PLAGUE IN SOUTH-AMERICAN PORTS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I gather from the Uruguay newspapers received to-day and from letters from friends in that part of South America certain details with regard to bubonic plague in Paraguay which I feel sure will be of interest to your readers. Up to the latter part of October the disease had not left Paraguay. Only a single suspicious case has been found in the Argentine Confederation, in the territory of the Missions. The governments of Uruguay and the Argentine Confederation, of Chili and of Brazil have taken the most stringent precautions. There is the greatest fear that the disease will spread. Just as soon as it was known definitely that a disease suspected to be plague had succeeded in gaining an entrance, the Argentine government sent a commission for the purpose of studying it. The preparation of an antibubonic serum was immediately begun in the bacteriological laboratory of Montevideo in order to be prepared for any emergency that might arise from the invasion of the disease.

While the commission sent by the Argentine government is convinced that the cases are true bubonic plague, certain physicians of Paraguay deny this, and assert that the disease under observation is an ailment which is rather frequently observed in their country. The clinical description, however, published by the physicians called to treat the cases are confirmed by the bacteriologic investigations and the experiments performed in the laboratories of Montevideo and of Buenos Ayres, and both these sources of evidence make it clear beyond doubt what the true nature of the disease is.

The disease continues to advance slowly but surely in Asuncion, the capital of Paraguay, where at the beginning the cases were very rare. At first one new case on an average was reported every three days. Since the first of October, however, the new cases averaged almost three a day. This is the usual conduct of the plague, and often disarms suspicion of the real character of the disease. For some time after its invasion of a new locality it claims but few victims, and limits itself to certain narrow foci, but soon is propagated with great intensity. The present epidemic began at Bombay in just this way. At Oporto, where the disease has existed now for more than three months and half, though the number of cases is less than a hundred, we cannot be sure for that reason that the future course of the disease will be a mild one.

One of the old physicians of Paraguay says that there exists in Asuncion a small stream made up mostly of stagnant pools which traverses the part of the city occupied by the poorest of the population, and receives all the filth of the city. This filth is not carried away at once, but stagnates and ferments under the

extreme heat. This, with the absence of public sewers, is amply sufficient to account for almost any epidemic even without the necessity for the introduction of a microbe from India.

It is certain that the plague is spreading in Paraguay, and though the epidemic is not as severe as true bubonic plague has often been in history it has a mortality at least of fifty per cent. When the disease first broke out its mortality was very alarming. Of the twenty-three persons first attacked twelve died. From the quarter of the city where it first appeared the disease spread to a group of houses situated along an arm of the river where the population is rather thick, inclined to be filthy, and in frequent contact with the soldiery. From these quarters it has spread practically to all parts of Asuncion that are not over clean.

The physicians who believe that the disease is without doubt genuine bubonic plague, assert this not only because of the bacteriologic investigation, but also because of the epidemiologic character of the disease. In virulence the microbe certainly at least equals the bacillus of pest. Dr. Decoud has seen a number of patients who have died of the disease in from thirty to forty-eight hours. Clinical symptoms are extremely simple. There is sudden fever, swelling of the glands, congestive spots, and then rapid death, or in place of death a slow and painful convalescence, accompanied usually by suppuration, sometimes by resolution of the affected glands.

Dr. Decoud also believes that the infection is being carried by fleas. In confirmation of this interesting opinion the doctor points out that the swelling of the glands always follows a series of minute punctures which indicate the points of entrance of the affection. For instance, when the flea-bite occurs in the leg they can be seen very plainly still present when the inguinal glands become enlarged. In the arm the axillary group becomes affected and the flea-bites can often be seen on the fingers or hand.

The disease as it exists in Paraguay is running a course very like the affection which Favre described in a recent number of the *Zeitschrift für Hygiene und Infektionskrankheiten* and which he has observed in certain provinces in Russia. The disease begins with an elevation of temperature and an intense headache. Then frequently there is vomiting and diarrhea, though often a certain amount of constipation is present. The buboes which appear in the axilla or inguinal regions are extremely painful. It is usually not hard to trace the history of contagion either from individuals affected by the disease or from objects that belonged to them. There is no typical period of incubation and all ages are equally liable to the disease. The mortality is very high and cures very rare. The sole difference between the disease and genuine plague is its lesser tendency to spread. From letters from Uruguay by friends here I have reason to know that the fear of the disease in Uruguary is very great. Especially since the news has been given out that a second Sister of Charity has fallen victim to the disease. Neither the government itself nor the inhabitants of Asuncion are reporting all the cases that exist. It appears that the true number of those attacked is at least double that reported.

Sincerely yours,

FELIX VITALE, M.D.

COYTESVILLE, NEW JERSEY,
November 18, 1898.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.—SECTION ON SURGERY.

Regular Meeting Held November 13, 1899.

THE Chairman of the section, DR. CHARLES N. DOWD, in the Chair.

DR. HOWARD LILIENTHAL of New York presented

A CASE OF PURULENT PERICARDITIS SUCCESSFULLY OPENED AND DRAINED

It was operated on during the summer and seemed interesting because the amount of pus evacuated made it almost unique in character. The patient was a Russian, 15 years of age, who on July the 6th of the present year was admitted to the Mt. Sinai Hospital. He had at the time the symptoms of a trilobar pneumonia. Two of the lobes of the right lung and one of the lobes of his left lung were consolidated. His temperature was 104.5 °F. when he came into the hospital, and it rose to a 105.6 °F. after a day or two. There was a steady progression of the symptoms. On July the 10th his respirations were 66, on July the 11th, 68. Pneumococci could be found in the sputum, but no tubercular bacilli were present. Prostration was so great that the patient could not urinate and the catheter had to be used. On the 13th the respiration rose to 72, on the 14th a pericardial friction sound was heard. No increase of heart dulness could be demonstrated for two days however, then it was noted that the sternum was flat from the notch to the ensiform. Streptococci were now found in the sputum, but tubercle bacilli were absent. After a remission of symptoms for more than ten days the pericardial friction sound returned. This was the beginning of August. Ten days later his condition had become very miserable. His pulse rose to 145 and was weak and irregular. On the 14th of August he was aspirated for the pericarditis and 18½ ounces of pus were removed. It was found to contain a pure culture of the pneumococcus. As he did not improve he was transferred to the surgical ward. Considerable cyanosis had developed, and as the patient was very nervous the question of anesthesia for the operation which was evidently indicated was a very serious one. It was decided that ether could not be given because of the struggling that might ensue. Chloroform it was feared might induce syncope in the weakened condition of the heart. Local anesthesia was decided on and as the patient was very fearful he was not told that an operation was to be done but made to understand that more thorough aspiration was to be tried. The local anesthetic used was eucain B. His face was screened off by a towel so that he might not see the site of the operation.

The patient was given five minims of Magendie's solution ten minutes before the operation. Altogether one dram of eucain B was used to produce the local anesthesia. The incision was made from the third to fifth intercostal space, about a quarter an inch from the sternum and then was given the form of L by an incision towards the nipple. Three quarters of an inch of the costal cartilages were resected. Fortunately the interspaces were wide and gave plenty of room for the surgical manipulations. When the pericardium was reached it proved to be extremely thick. Tissues at least a half inch in thickness had to be cut through, Immediately after penetration there was a tremendous gush of pus, at every little cough there would be another gush of pus. Several times when it was thought that all the purulent material had been evacuated movements of respiration or of coughing would expel more. It was estimated at the time by one of the assistants that thirty-five to forty ounces of pus were removed. Personally the amount was estimated at nearer fifty or sixty ounces.

A drainage-tube was tried, but it impinged upon the heart and it was feared that the friction might cause erosion or reflex nervous trouble in an already weakened organ and so the wound was left open, no artificial drainage being employed. Irrigation was employed a number of times and the normal salt solution used for this purpose seemed to become pocketed in the pericardial folds and gushed out on cough or respiratory efforts, as the pus had done. The patient three months after the operation is in excellent general condition. Synechiæ have formed but the youth of the patient will probably lead to the gradual tearing loose of these as he grows in strength and that ultimately he will be left with an untrammelled heart.

DR. MAURICE H. RICHARDSON of Boston then read the paper of the evening, entitled

REMARKS ON THE SURGERY OF THE GALL-BLADDER.

He begged to state that his paper should rather be called surgical intervention for gall-stones. There were a number of unsettled problems in the treatment of gall-stones which would require the accumulated experience of surgeons from all over the world in order to be solved. Gradually the fatality of operations on the biliary tracts is being reduced and it is evident that a great and successful field for modern surgery is being opened up. The subject is too large to attempt to treat exhaustively. I shall only try to give you some of the practical points that I have learned from my own experience. In this last ten years I have had under treatment altogether 153 cases in which the presence of gall-stones was suspected. In 95 of these operation was performed. In the last year 34 operations for gall-stones, and only 54 hysterectomies were done in the Massachusetts General Hospital. This gives a fair idea of the relative position that gall-stone surgery is gradually taking since operations for gall-stones are almost as common now as hysterectomies.

During the last year I operated in 21 cases with 2 deaths. In all my experience I have had 18 deaths. The collation of these deaths shows that the fatal termination was due more to the patient's condition before the operation than to the operation itself. A number of causes over which the surgeon may have very little control, such as uremia, embolism, capillary oozing, thrombosis, come in to swell the death-rate. The important practical rule is not to delay operation until the patient is so run down that it will not be well borne.

As to certain questions with reference to gall-stones this has been my experience. First, as to their bacterial origin, my brother, Dr. Mark Richardson, has examined very carefully all of my cases for this purpose and the result was negative. There is no proof of definite bacterial influence in the formation of gall-stone. An important thing is the form gall-stones may assume. This causes them sometimes to cling to the mucous membrane and makes their removal a matter of difficulty, while it influences also the possibility of their engagement in the biliary ducts and also the possibility of their making a water-tight impaction. It is this that is the main cause of intermittent jaundice. The gall-bladder may, however, distend in other directions more toward the median line, for instance, or toward the umbilicus or even toward the iliac fossa. This is important.

I have found as many as 540 stones but in this case there had been fewer symptoms than in a patient from whom I removed a single irregularly shaped stone. The absence of facets on a stone does not necessarily show that other stones are not present. I have found as many as ten unfaceted stones in a gall-bladder.

Symptoms from stones are most irregular. I have removed a stone that was large enough to cause blocking of the small intestine yet it did not give the slightest history. In my experience a normal gall-bladder, even if moderately distended, cannot be felt. I have found it very difficult to decide when a gall-bladder was tensely distended as to whether it might not be a kidney, or some pathological condition of tissues in this neighborhood. At times a tensely contracted gall-bladder, especially where the contraction is due to the reflex action of the presence of gall-stones, simulates malignancy. Once I was on the point of giving up an operation because it seemed absolutely hopeless to proceed for this reason. Yet the patient made a good recovery and the symptoms have all disappeared. It must be borne in mind that the mucous membrane of the gall-bladder after the relief of pressure by the evacuation of the accumulated contents bleeds very easily. The surgeon should permit himself only such manipulations as are absolutely necessary. I have had one very sad fatal case in the person of the wife of a physician friend. No single vessel of any size was involved, but extensive capillary oozing took place from every part of the surface of the mucous membrane of the gall-bladder. It is evident that operations should not be delayed too long. If complications have not already set in there is practically no danger.

The diagnosis of gall-stones is an extremely important matter and is the concern of the surgeon rather than the physician, especially if operative interference seems essential. Pain is an important symptom but pain may be referred away from the region of the gall-bladder

even to widely distant organs. Another important symptom is the distention of the gall-bladder. It usually comes forward toward the abdominal wall just beneath the edge of the liver as an ovoid, the other end of the long axis pointing toward the foramen of Winslow. This distention may close up the hepatic duct and the intermittent jaundice that is sometimes noticed is caused by alternating stoppage and relief from pressure.

The pathognomonic sign of gall-stones is the finding of a stone in the stool. Sometimes other symptoms are so marked as to render careful exploration of the stool unnecessary, at times most careful search will fail to reveal the presence of a stone. The absence of a stone in the stool is not positively negative, because the pain may have occurred from a stone that was just grasped by the biliary passages and then released. One source of mistaken diagnosis in gall-stones that is not sufficiently considered is appendicitis. Oftener than might be imagined not only is the pain of an appendicitis referred to the region of the liver, but the tumor appears in a position that might easily be assumed by a distended gall-bladder.

In general, when there are any serious symptoms and yet good grounds for doubt remain as to whether a gall-stone is present or not an exploratory incision is indicated. Even if the tumor seems to be malignant, this exploratory incision should be made. This is very important. The patient is given a good many chances for a very trivial danger. Even after the incision is made the thickened walls of the tensely distended gall-bladder may simulate a malignant tumor. After incision and removal of the gall-stones, the bladder promptly returns to almost normal. No further symptoms may develop. Nature is a poor operator. What the surgeon is able to accomplish in a few moments of skilful work with the knife nature will take years to do and then the result is by no means something to be proud of. Palliative treatment for gall-stones giving serious symptoms is practically always a mistake. Besides stones in the gall-bladder there may be stones in the biliary duct. These are much more difficult to treat. As a general rule the duct should be incised immediately over the stone and the stone removed, drainage being provided so as to permit the escape of bile or any other fluid that may collect around the parts. The persistence of biliary fistulæ in these operations often indicates that a stone further down has been left in the bile passages. If the cystic duct is incised for the removal of a stone it may be well to remove the gall-bladder and sometimes the duct also. The chronic irritation which causes thickening of the gall-bladder may lead later to carcinomatous degeneration of the tissues of the bladder-wall. Gall-stones are well known to be a serious etiological element in the production of cancer. In operations on the common duct it is to be remembered that the portal vein runs by the side and that folds of it may even overlie the common duct in the lower part of its course. It may easily be injured and a fatal issue is inevitable unless the rent can be repaired. I know of one case where Lembert sutures were applied to a cut portal vein and though furious hemorrhage had resulted the patient's life was eventually saved. With the modern development of surgery the surgical relational anatomy of the portal vein is much more important than that of the triangles of the neck.

It is to be remembered that even the slight manipulation in malignant disease may cause a fatal termination by causing uncontrollable bleeding from vessels in the midst of the malignant tissue where it is often impracticable to control hemorrhage. The ideal operation, of course, after the incision of the gall-bladder to remove gall-stones would be to close up the incision in the fundus by a series of Lembert sutures and then seal the abdominal wound. I have tried this twice where the conditions seemed eminently suited to guarantee a good result from it. In both cases I had forty-eight hours of most serious uneasiness with regard to my patient. I have abandoned this ideal procedure entirely and do not think I shall take it up again. Temperature and pulse in both cases rose to such a degree, the patients' conditions so affected and their convalescence so disturbed by untoward events after operation that I shall not easily be persuaded to try it again. I have reason to know that this same distrust of this so-called ideal operation exists among my colleagues at the Massachusetts General Hospital.

In discussion Dr. Robert F. Weir of New York said that he agrees with Dr. Richardson as to the advisability of leaving the gall-bladder open. After the incision he attaches the edges of the tissues to the abdominal wall or to the peritoneum or to the deep layer of fascia and leaves the skin incision open. Usually a drainage-tube gives excellent service. Kehr with his large experience leaves the incision open. Sometimes when the lower bile passages seemed to be closed he forces an opening by injections of water not using much pressure of course. This gives better chances of satisfactory recovery in my experience. With reference to operations on the ducts I usually make the incision at the upper portion of the duct where there is much less danger, practically none in fact, of wounding the portal vein during the manipulation. With my finger in the foramen of Winslow I feel myself master of the situation and can hold myself in readiness for whatever procedures are necessary. I have found the suturing of the common duct an extremely difficult thing to do satisfactorily, I used Lane's long, thin, needleholder, but abandoned it after one or two trials. Halsted's hammer for the same purpose also proved unsatisfactory. In the last six cases I have simply left the wound open and allowed it to drain from the bottom and have been very well satisfied with the result.

After removing a stone I used to employ a sound in order to demonstate whether the duct was patulous beyond the point where the stone had been lodged. I feared, however, that I might introduce septic material from the bowel, so now I introduce water from a long-nozzled syringe made for the purpose. I have had gall-stones produce perforation in three cases with extravasation of bile. In one case this flowed down into the right iliac fossa and there was mistaken for appendicitis, until after incision the yellowish-colored fluid was found.

Dr. Charles F. McBurney of New York said: The more I know of gall-stone surgery the more respect

I have for the lesion. It is by no means an easy branch of surgery and there is no doubt in my mind that its invasion without careful preparation and experience will lead to a good many sad results. Gall-stones often give no symptoms. They are often discovered at operations and autopsies without the slightest inkling of their existence. Sometimes after having given symptoms for a time they cease to be troublesome.

I often feel like leaving certain cases alone. In elderly people who do not stand operations well and in fat people in whom the manipulations are much hindered by the thickness of the abdominal wall, I generally do not advise operation unless the symptoms are absolutely unbearable. Otherwise the earlier the operation is done the better the chance of success. Biliary fistulæ after operations on the gall-passages are extremely annoying. Dr. Jones of Rising City, Nebraska, has I think, demonstrated the best method by which they can be avoided. He inverts the coats of the gall-bladder so as to bring the peritoneal surfaces together. The incision then closes very prettily. His work was done on dogs but I have seen it substantiated in the human being. When stones are in the common duct instead of cutting directly down upon them, I prefer to make an incision into the duodenum and take them out through the duodenal papilla. There is no need of abdominal drainage then after the operation, the surgeon need have no anxiety and all danger of wounding the portal vein is avoided.

DR. FARQUHAR CURTIS said: Bleeding occurs in operation upon the biliary tracts only in rare cases. It seems that there is some special reason for this. In one case in which I was bothered for a long time after operation by almost uncontrollable capillary oozing, cirrhosis of the liver developed and brought on a fatal termination after some months. It was then evident that the hemorrhage in the case had been due to the destruction of the portal circulation. I agree very heartily with those who insist that an exploratory incision should be made in cases where malignancy is suspected. The patients are given a chance for their lives. It will be found that sometimes malignancy does not exist, but has been simulated by the presence only of gall-stones.

DR. ROBERT ABBE said: At times in operations upon gall-bladders in which stones have existed for sometime great hypertrophy of the tissues will be found to exist. In one of my cases so massive was this hypertrophy that the walls of the gall-bladder were an inch in thickness and cut like a potato. I gave an absolutely bad prognosis because I felt sure that the tissues were malignant. In six months the tumor had completely disappeared, the patient has since continued without a symptom.

DR. JOHN B. MURPHY of Chicago said: I am very glad to hear it claimed here to-night that gall-stones are practically always a surgical lesion. I am also very glad to find that others realize the danger from hemorrhage in these operations on the biliary tracts. I had my sad experiences with this important factor in my early operations on the bile passages and it proved a great source of discouragement. I now make it a rule where jaundice exists to do as little operating as possible. I prefer to do a preliminary cholecystostomy, in order to get rid of the jaundice, waiting for some time for this purpose and then after some days or weeks I do whatever further operating seems necessary.

In closing the discussion DR. RICHARDSON said that he did not consider old age a positive contraindication to operation. He had had one patient of 78 who could not stand the pain of the gall-stones and who did stand the operation well. When incisions are made in the common duct he considers that the safest way is to drain and allow the wound to close of itself. In reply to a question of Dr. R. Morris he said that he did not know why facets did not occur in certain cases despite the presence of other stones. He had not noted whether adhesions existed or not in these cases.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, November 7, 1899.

FREDERICK PETERSON, M.D., President of the Society, in the Chair.

MULTIPLE NEURITIS AND ACROMEGALY.

DR. WILLIAM HIRSCH presented a man, twenty-six years of age, who had come to his clinic on July 14, 1899, complaining of shooting pains in the upper and lower extremities, and great difficulty in walking. He stated that seven years ago he had had a similar attack of pain in the upper part of his body, and had been paralyzed for six months. Two years later he had had a similar attack, lasting ten weeks, and there had been a third attack, though of shorter duration. Examination had revealed very marked atrophy over the muscles of the upper extremity, especially the muscles around the shoulder. The long muscles of the back were also considerably atrophied, as were those in the lower extremities, but not to the same degree. Sensation was slightly diminished in the shoulder girdle. The motor power had been greatly decreased so that the man could walk only with the greatest difficulty. The pupils were equal and of normal reaction. The patellar reflexes were considerably exaggerated, but there was no ankle-clonus. The case was evidently one of recurrent multiple neuritis, but in addition there was a distinct swelling of the upper lobe of the thyroid gland, and his hands and feet were disproportionately large, and more or less disfigured. The bones of the carpus and metacarpus were decidedly thickened at their ends. The internal and external condyles of the femur were much thickened, and the lower jaw was not of the usual shape. The heart was enlarged, and there were systolic and diastolic murmurs at the apex. The patient stated that he had noticed a gradual enlargement of the hands and feet since the age of twenty-one, and, according to his statement, he had grown about two inches in height during the last few years. A diagnosis of acromegaly had been made. Plaster casts of the hands and feet had been taken at that time. The man had been placed on the extract of hypophysis. He had recovered from his neuritis in about two months, so that he could now walk perfectly well. There had been such

a marked diminution in the size of the hands during this period that casts made two days ago were also presented to allow of comparison with those first taken. Skiagraphs showed that the chief changes had been in the soft tissues. The speaker said that the recurrence of multiple neuritis seemed to be quite in harmony with the theory that the acromegaly was the result of a disturbance of metabolism from disease of the hypophysis.

DR. W. M. LESZYNSKY said that the case seemed to him an atypical one, and he would not be willing to accept this diagnosis until a careful examination for spinal curvature had been made, and the visual fields had been tested.

DR. TERRIBERRY asked what Dr. Hirsch considered to be the pathological condition giving rise to the neuritis. The existence of fibrous enlargement of the joints would point rather to the case being a neuritis of rheumatic origin.

DR. JOSEPH COLLINS was also inclined to think that the case was one of rheumatic multiple neuritis. Acromegaly, he said, was really a uniform enlargement of the joints—a condition which the photographs and skiagraphs showed did not exist here. The hands and feet were misshapen, as might occur in rheumatic arthritis. The condition of the heart also favored the view that the case was rheumatic.

DR. B. SACHS said that while the case was certainly atypical, the increase in stature in recent years and the peculiar shape of the lower jaw seemed to him to point rather strongly to acromegaly. There was not a thickening of the lower jaw, but an actual prolongation of the ramus of the lower jaw. The diagnosis of a rheumatic affection did not entirely cover all of the facts in the case.

DR. HIRSCH said that in his opinion, the skiagraphs showed clearly that the joints themselves were perfectly normal although the ends of the bones were somewhat thickened. That in itself should exclude joint disease. Again, the marked swelling of the thyroid was not compatible with the rheumatic theory. What was the most characteristic of all was the increase in the lateral diameter of the foot. As the nerves were involved in acromegaly at times, it was quite proper to look upon the neuritis as having the same origin. As there had only been about one hundred cases in all reported one was hardly warranted in speaking of acromegaly as being "typical."

AMAUROTIC FAMILY IDIOCY.

DR. FREDERICK PETERSON presented a child fifteen months old, the only child born of a Hebrew mother when she was nineteen years of age. The pregnancy had been normal and the labor difficult and instrumental. There had been slight asphyxia at birth. The child had been nursed until two months ago. It had been well up to the age of five months when it had had some fever, and shortly afterward had developed a very painful condition of the cervical spine. The case had been sent to the nervous department of the Vanderbilt Clinic by Dr. Gibney. The arms and legs had been somewhat rigid; the head muscles also rigid. The child was nearly blind, and the disk showed a typical white atrophy with the cherry-red spot. The strange feature of the case was its apparent commencement as a meningitis.

DR. V. P. GIBNEY stated that he had examined the child and had failed to find anything orthopedic about it.

DR. TERRIBERY said that he had obtained a history of the child having been severely injured by instruments at birth, and the mother had called attention to a scar in the frontal region, and had stated that the attending physician had thought this injury so severe that he had doubted if the [illegible]ld survive. According to his recollection the mother had told him that the trouble had begun much sooner after birth than had been stated in the history just given.

DR. SACHS said that there was no reason why a child with amaurotic family idiocy should not have an acute cerebral disturbance, and hence, the acute symptoms detailed would not militate against the diagnosis. The ophthalmoscopic picture confirmed this view.

DR. HIRSCH said it was especially worthy of note that there was still some vision remaining, as some authorities had reported cases of this kind in which the children had been born blind. He had examined one of these cases anatomically and had come to the conclusion that he had had to deal not with an arrest of development, but with an acquired disease. The case just presented afforded additional support to this view.

DR. PETERSON said that he had carefully inquired into the history, and had been told by the father that the child had been apparently healthy up to the age of five months, or until the illness marked by fever and croupy cough. The marked retraction of the head and the great tenderness in this region had been so great as to lead a good pediatrist and a surgeon into the belief that there was some serious injury—probably a dislocation of the cervical vertebra. There was typical white atrophy present. The child's general health was failing.

CASES OF RIGID SPINE.

DR. JOSEPH COLLINS presented a man, forty-five years of age, who had served in the German army. About ten years ago the present trouble had gradually developed —the bending of the back and the difficulty in moving one hip. Examination had shown a cessation of abdominal respiration and a rigidity of the spine.

DR. V. P. GIBNEY showed a similar case, that of a man, thirty-five years of age, who for the past five years had been stooping a good deal. About seventeen years ago he had had an attack of gonorrhea lasting three or four weeks, and involving the lower extremities. Four years later he had had an attack of sciatica on the left side, lasting nearly a year. In October of 1896 there had been much pain in the heel extending up into the hips.

DISCUSSION ON CHRONIC PROGRESSIVE RIGIDITY OF THE SPINE WITH ANKYLOSIS.

DR. B. SACHS opened the discussion. He said that in 1892 a paper on this subject had been published in a Russian journal by von Bechterew. The symptoms were immobility, complete or partial, of the whole spinal column, without any distinct tenderness on percussion; a

paretic condition of the muscles of the head, trunk, and extremities, and a diminution of sensation within the distribution of the cutaneous branches of the nerves supplying the back and the lower cervical plexus; paresthesia and pain in the back, neck, extremities, and vertebral column. All other joints had remained exempt in spite of the progressive character of the disease. Traumatism and hereditary influences were supposed to be the chief etiological factors. Strümpell in 1884 had very properly called attention to these cases in a chapter on chronic rheumatism, The chief difference between the descriptions given by these two authors were in the implication of the hip-joints and the entire absence of spinal root symptoms in the type described by Strümpell. Marie had also described the malady under the name of *spondylose rhizomelique*. In some of the cases described there was a superficial resemblance to arthritis deformans. Von Bechterew, in a post-mortem examination made on one of the first patients described, had found a chronic leptomeningitis in the upper cervical region compressing the spinal roots. The degeneration of the spinal roots was supposed to have been due to changes in the nerve cells. The gray matter of the cord was not diseased. He had been surprised to find no primary lesion of the vertebra or joints. Maria had studied a skeleton in which there was marked proliferation about the lumbar vertebræ, and the bones entering into the formation of the hip-joint, and inferred that ossification of the ligaments must have caused the complete immobility of the spine. The von Bechterew type was characterized by chronic rigidity of the spine, often limited to the cervical region, a chronic leptomeningitis with root and spinal-cord changes, and without vertebral joints being affected. In the Maria type there were no root symptoms, but ossification of the ligaments, hypertrophy and ankylosis of the joints.

The following cases were then reported:

Case I.—A man at the Montefiore Home whose present illness had begun about six years ago had pain in the left knee upon rising, increasing on attempting to walk. The pain had continued for a year and a half, when he had entered the Presbyterian Hospital. He had been temporarily improved while there, but one year later had entered the Montefiore Home. For the first eighteen months there he had had a persistent cough, but no evidence of tuberculosis. Under narcosis all of the affected joints had remained rigid and during the anesthesia there had been a marked ankle-clonus. The case corresponded very closely with the Strümpell–Marie type.

Case II.—A Russian, male, fifty-three years of age, with a completely negative family history. He had been married twenty-five years, and had five healthy, living children. He was a well-nourished and well-preserved person. The lower part of the spinal column and the hips were bound together. His case also was of the Strümpell–Marie type.

Case III.—A man, forty-eight years of age, a Russian tailor. His present illness had begun two and a half years ago with pain in the sacral and lumbar regions, without any history of trauma. Six year ago he had had pains in the right shoulder and forearms supposed to be rheumatic. The man was tall and well-nourished. He bent forward to the left, and had a spastic paretic gait. The knee-jerks were lively and ankle-clonus was present on both sides. There was a distinct tenderness of the twelfth dorsal vertebra, and this was increased lower down. On March 2d of the present year it had been noted that the patient was worse, the lower extremities being contracted. On attempting to stand erect the whole body was curved. The lower portion of the vertebral column was twisted, and he dragged the left lower extremity. In view of this sudden development of root symptoms, increase in pain and loss of the left knee-jerk, possibility of a neoplasm compressing the nerve-roots had been considered. A laminectomy had been done on him by Dr. A. P. Gerster and a portion of the thickened laminæ and enormously thickened lining membrane removed. Portions of the first and second lumbar vertebræ were also removed. This thickening of the membrane might give some hint to the character of the morbid process—at least it had suggested that the operation was responsible for the decided improvement that had occurred since that time.

Case IV.—A man, fifty-four years of age, having a negative family history. He had had an attack of acute articular rheumatism. Three years ago the present trouble had begun with pain across "the small of the back." He had gradually come to walk stiffly. He had been given a thorough course of iodids, with the result that there was now very much less rigidity than last spring. The diagnosis of a specific or rheumatic pachymeningitis seemed to be the most plausible one, and the case was presented simply to show a form of secondary ankylosis.

The speaker said that von Bechterew type must be looked upon as one of secondary rigidity. Ordinary rheumatic affections occur equally in the two sexes, whereas, with but one exception, the reported cases of spinal rigidity had been in males. Comparison of the pathological conditions showed that in rheumatism the affection of the ligaments was secondary. The differences between arthritis deformans and the type under discussion were not so marked.

Dr. Fraenkel said that the chief question to decide was whether there was any pathological relation between the Strümpell type and cases of chronic rheumatism or arthritis deformans. Of course, chronic rheumatism would give rise to a stiff back, but there would not be the clinical symptoms emphasized in the paper just presented.

Dr. Gibney said his attention had been called to the subject about eighteen years ago by a case of spondylitis deformans, and since then he had been trying to differentiate the many varieties of stiff back coming under his observation. He had seen a number of cases of senile arthritis.

Dr. C. L. Dana said that he had been taught that there were two types of arthritis deformans, *viz.*: (1) The type beginning in the small joints and progressing steadily, and (2) the senile type, beginning in the back and

hips, and stiffening them. There were almost always some cases of that kind in Bellevue Hospital. He had studied his own cases in connection with those reported by others, and had come to the conclusion that the cases of the Strümpell-Marie type were nothing more than arthritis deformans. He felt sure that, in due time, cases would be found in which the spine only was affected, and in which only the root-joints were affected. He now had a case in which only the hips were affected, the spine not having been involved as yet. He did not personally feel that either Strümpell or Marie had added anything at all to the clinical knowledge of these cases. Twenty-five years ago it had been stated very clearly that rheumatoid arthritis sometimes presented this particular form. Von Bechtereff had certainly described types that were distinctly secondary; the case reported with autopsy seemed to him one of specific meningitis. There was a type of stiff spine which had been described by Dr. Bradford of Boston, and proved by him to be due to gonorrheal rheumatism. In this case the history was most conclusive. He now had under observation a very bold kyphotic spine in which there seemed to him but little doubt that the case was rheumatoid arthritis. He, therefore, believed that *spondylose rhizomelique* was a nosological superfluity.

DR. GEORGE R. ELLIOTT said that three years ago he had been privileged to examine under ether, with Dr. Fraenkel, one of the patients presented that evening, and had found that the rigidity had remained. Since that time the case had proved to be a classical type of spondylose rhizomelique of the Strümpell-Marie type. He was not yet willing to admit that we were dealing with a disease *per se*. That it was not arthritis deformans admitted of little doubt. It had been said that this type could be differentiated from arthritis deformans in that the latter affected chiefly the small joints, but he believed such a statement must be modified. A clinical examination of so-called arthritis deformans revealed two distinct findings, *viz.:* one, an atrophic process, in which, after acute or subacute symptoms, the joint got smaller, and a second clinical picture in which the joints became hypertrophied. Pathological study supported the clinical findings. He could see nothing in either the clinical history or in the pathological study of the type presented which differed from the hypertrophic form of the smaller joints. He was of the opinion that there were two distinct diseases—arthritis deformans and a proliferating arthritis. This might be called the Strümpell-Marie type, or better, central type of the proliferating kind, as distinguished from the peripheral type of the proliferating kind, but it was not to be confounded with arthritis deformans proper. That the small joints always escaped, as had at first been held, was not true. Marie himself had reported affection of small joints in one of his cases. This statement is supported by Bannatine of England and Goldthwait of Boston. There was much about the type of disease under discussion to suggest a degeneration, *viz.*, gradual destruction of soft parts of joint and partial replacement by osseous material, the parts becoming welded together with very little excess of tissue or deformity. The proliferation, which was slight, appeared as a secondary process, the result of irritation. It was very unlike that producing so-called arthritis deformans proper. It was not so rare as might be supposed from the few cases so far reported. Dr. Goldthwait had reported, at the last meeting of the American Orthopedic Association, ten cases which had come under his observation. So marked a type as one of the cases just presented was rare indeed; it was a classical example of the Strümpell-Marie or central type.

DR. W. R. TOWNSEND said that he had at present under his care a child presenting a picture very closely resembling arthritis deformans. If he remembered correctly Charcot had insisted that these cases were not rheumatic but neurotic. He had seen a number of cases of rigid spine, and had supposed them to be either rheumatic or of the types of arthritis deformans of the neurotic character described by Charcot.

DR. COLLINS said that a discussion of this kind could not be profitably carried on until the various conditions spoken of had been clearly differentiated. He then reported two cases occurring in women. The first case was a woman of thirty years, first seen in the City Hospital last spring. She had been well up to the fall of 1897, at which time she had had what she called "a stroke on the left side." In August, 1898, she had begun to complain of pain in her back, and she soon became so stiff that she could not get around. Examination had shown over the sacrum what had at first appeared to be a bony tumor of the sacrum. There had been no atrophic cutaneous disturbances although she had been on her back for a long time. There were no sensory disturbances of the legs. The right upper extremity was stiff at the shoulder-joint. There was no evidence of cranial nerve palsy. She had died about four weeks later. At the autopsy it was noted that the stiffness in the hip-joints was not so great as during life. The liver showed marked passive hyperemia. The kidneys showed cloudy swelling. The heart showed marked fibrous endocarditis and advanced myocarditis—a cartilaginous myocarditis, and ossification of the fibers and fatty degeneration. The brain and spinal cord had been stained and examined, but had appeared to be normal. The vertebral column seemed to be made of one piece, and this was due entirely to the calcification of the anterior spinal ligament, the posterior spinal and the interspinal ligaments. The intervertebral disks were not thickened. The change in the hip-joints was comparatively slight. The shoulder-joint was not examined. The changes, therefore, were not those of an inflammation—nothing like an ordinary rheumatism. The speaker said that cervical meningitis would produce a stiff back and a stiff neck—a symptomatic stiff back, and it seemed to him this was the character of von Bechterew case.

DR. PETERSON said that he had seen three or four cases, all of which he had diagnosticated as arthritis deformans of rheumatic origin. One of these patients, a man of forty, was of a neurotic temperament, and had been previously under the care of a number of specialists. He had developed in the course of the preceding three or

four years an almost complete immobility of the spine and stiffness of the hips and knees. There was no enlargement of the small joints of the hands and feet, and no evidence of cardiac disease. If cases of this type were excluded, as Dr. Collins had suggested, there would be very few left. What Dr. Collins had found at autopsy seemed very much like what had been observed in many cases of arthritis deformans of the rheumatic type.

DR. SACHS, in closing, remarked that the case described by Dr. Collins seemed to be rather acute as compared with those that had been reported. The post-mortem findings corresponded closely with some von Bechterew had reported. The von Bechterew type had been brought into the discussion because it had been necessary to differentiate it from the others, and for this reason he had endeavored in the paper to show more clearly than previous writers that von Bechterew's case was of the secondary type. The morbid changes were quite different in the two types. In the European journals there had been much opposition to the view that they were at all closely allied to rheumatism or to arthritis deformans.

REVIEWS.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, OR THE ACTION OF DRUGS IN HEALTH AND DISEASE. By ARTHUR R. CUSHNY, M.A., M.D., Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan, Medical Department. Philadelphia and New York: Lea Brothers & Company, 1899.

IF supplemented by the study of a guide to practical therapeutics this work will afford the student an excellent text-book on materia medica, written from the standpoint of pharmacodynamics and based on laboratory research. The therapeutic application of drugs is not neglected in the book, but the descriptions of their uses are molded to the findings of their physiological effects, *per se*. This volume is dedicated to Schmiedeberg, author of the "Grundriss der Arzneimittellehre," from which volume is derived much of the inspiration of the present work. Those who have known this teacher's work will appreciate more fully the philosophic grasp that the pupil displays.

Many features of the work are very commendable. Drugs that are little used are passed over with praiseworthy brevity, while the chapter on organic remedies, though by no means exhaustive, is ample and modern. The bibliographies attached to the different subjects may have little value to the student, but to the practitioner and investigator they will prove of considerable service.

DIE KRANKHEITEN DER EIERSTOCKE. (THE DISEASES OF THE OVARIES AND THE PAROVARIUM.) Herausgegeben von Professor Dr. A. MARTIN, Griefswald. Leipsic: Arthur Georgi, 1899.

THE two volumes comprising this portion of Martin's work on the diseases of the uterine adnexa deal with the ovarian and parovarian inflammatory and neoplastic conditions. The anatomy and physiology of the ovary are first discussed together with a terse description by Martin of the palpation of the ovary. Developmental defects, and the inflammatory ovarian disturbances are next considered and are followed by a chapter on the infectious granulomata affecting the ovary, syphilis, actinomycosis, tuberculosis and leprosy. The various ovarian tumors with their complications are then dealt with. The special pathology of the tumors, a long chapter on treatment, and a consideration of the anatomy of the parovarium and its pathology bring the work to a close.

It is dificult in an exhaustive work of this kind to select portions for special review. Striking elements are the vast abundance of material studied, and thorough consideration given to pathological--especially to microscopic--study of the material, the prominence given to the etiology of ovarian disease, and the excellent chapter on the therapeutics of the ovarian disturbances including a noteworthy study of women upon whom ovariotomy has been performed. The illustrations, entirely original, with rare exceptions, are numerous and supplement the text thoroughly. From the sketch of the work submitted, it will be seen that a detailed review is unnecessary. It is sufficient to say of it that as a contribution to the knowledge of ovarian disease it marks a distinct advance over any recent publication. Professor Martin's fellow contributors are Heinrichs, Herter, Kippenburg, Kossman, Orthmann, Sanger and Stocklin, Wendeler and Wilms. The giant's share was done by Martin himself.

MATERIA MEDICA, THERAPEUTICS AND PHARMACOGNOSY. By FINLEY ELLINGWOOD, M.D., Professor of Materia Medica in Bennett Medical College, Chicago. Chicago: Medical Press Co., 1899.

THIS is a long exposition on the eclectic method of the treatment of disease by drugs, the classification resting entirely upon the clinical effect of the agents employed. There is a superabundance of botanical lore and not enough of physiological action for a model text-book. The book-making and paper are exceedingly poor.

THERAPEUTIC HINTS.

Disinfectant Powder for Cervical Cancer.—

℞	Iodoformi	ʒ iv
	Quininæ sulphat.	gr. xlviii
	Pulv. carbonis	ʒ i
	Ol. menth. piper.	gtt. x.

M. Sig. Apply on tampon to cervix.—*Gilette.*

Sedative Action of Methylen-blue on Insane Patients.—BODONI reports a number of cases of different forms of insanity in which he tried injections of this drug for conditions of excitement, with very satisfactory results. The treatment was regularly followed by general depression, frequently by sleep. That the drug acts as a vasoconstrictor was evidenced by pallor of the skin. No injurious effects were noted.

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ORIGINAL ARTICLES.

THE HEMOSTATIC USE OF GELATIN: WITH REPORT OF A CASE OF HEMOPHILIA TREATED BY GELATIN; WITH RECOVERY.[1]

BY J. B. NICHOLS, M.D.,
OF WASHINGTON, D. C.

A THERAPEUTIC procedure that has been developed in France within the past four years consists in the utilization of the coagulating influence of gelatin upon the blood to secure hemostasis in hemorrhagic conditions and aneurisms. The fact that gelatin has a distinct and marked coagulating action on the blood was discovered by A. Dastre and N. Floresco, who made detailed experimental studies of the subject and reported their results to the Société de Biologie of Paris in February and March, 1896. Their discovery of the hemostatic properties of gelatin was first utilized therapeutically by Paul Carnot of Paris, who, in July, 1896, reported successful treatment of five cases of hemorrhage by the local use of gelatin. The first internal employment of gelatin recorded was made by Lancereaux and Paulesco, also of Paris, who, in June, 1897, reported successful results in the treatment of an aortic aneurism by subcutaneous injections. Since then this therapeutic measure has attracted attention in various quarters, though it has not attained widespread notice.

According to the accessibility of the point affected gelatin is used either locally or internally. As different methods are necessary and different conditions are presented, its employment in these two ways requires separate consideration.

1. *Internal Use of Gelatin.*—In cases where the seat of the hemorrhage or other lesion is not directly accessible, the hemostatic action of gelatin can be obtained only by introducing it into the circulating blood in the hope that at the affected point the desired result will be produced. Subcutaneous injection affords about the only practicable means of introducing the gelatin though rectal injection might also be of some utility. Intravenous injection would probably be too dangerous to be admissible and ingestion by the mouth is excluded, since the gelatin would be altered and its coagulant properties destroyed by the processes of digestion.

[1] Read before the Clinical Society of Washington, D. C., October 23, 1899.

As, in order to coagulate the blood, the gelatin must be present in sufficient quantity at the point affected, and as a greater amount of gelatin can be applied locally to an external bleeding point than can be brought to bear when introduced into the circulating blood, the local use of gelatin would apparently be more efficacious and certain than its internal use. For this reason, and in view of the danger in injecting gelatin, the local method is preferable whenever it is possible. Subcutaneous injection is to be employed only when, from the nature of the case, no other method of application is practicable; it is thus available in cases of internal aneurisms, or internal hemorrhages, like hemoptysis, hematuria, intestinal hemorrhage, purpura and the like.

As too great an increase in the coagulability of the blood might result in the formation of undesired intravascular clots, with possibly disastrous consequences, it is obvious that the introduction of gelatin into the circulation is not devoid of danger and not to be practiced carelessly. Gelatin may also exert a specific physiological action on the organism not as yet determined, which has to be taken into account. That the danger is real and not merely theoretical is shown by the fact that already in two fatal cases serious results are with greater or less probability attributed to the subcutaneous injection of gelatin. In one of these patients, that reported by Boinet, the clot which formed in the aneurismal sac pressed upon the pulmonary artery. This restricted the blood-supply to the lungs, and pulmonary tuberculosis subsequently developed; that the secondary development of tuberculosis in this patient can be properly ascribed to the gelatin has, however, been regarded as very doubtful, and the results were, at most, remote and indirect. In the other case that of Barth, the evil effects were perhaps more clearly due to the gelatin. This patient, a woman, with an aneurism of the arch of the aorta had received about thirteen subcutaneous injections of gelatin. Some days after the last injection, which consisted of 30 cubic centimeters of a two-per cent. solution, she was suddenly seized with dyspnea, syncope, and cyanosis, and died in collapse. At the autopsy the aneurismal sac was found filled with thick clots, which also extended beyond the sac into the left internal carotid artery.

A general agreement has not been reached with reference to dosage and administration. Lancereaux and Paulesco, basing their figures on experimental work and the results of treatment, recommend the use of a 2-per cent. sterilized aqueous solution of gelatin with .7 per cent. of sodium chlorid; of this 200 cubic centimeters is injected at a sitting; this is repeated at intervals of four to eight days until the aneurism is hardened or the desired effect is produced. Others have followed this dosage, while still others consider the amount too great. Huchard in a case of tubercular hemoptysis used a solution composed of gelatin 7, sodium chlorid 10, and water 1000 parts. The amount injected was 50 cubic centimeters. For aneurisms he employed a stronger solution, gelatin, 2; sodium chlorid, 10 (?); water, 100 parts, and began with a dose of 25 cubic centimeters and increased this to 50 cubic centimeters, the injections being made every two to five days. The gelatin used was of the best quality, such as the French gelatin commonly employed by bacteriologists.

It goes without saying that the gelatin solutions should be perfectly sterile, and that the injections should be made strictly aseptically. The solutions can be sterilized by heating at 100° C. for fifteen minutes daily for two or three days; and they then should be kept for a time to see if any growth develops in them. In sterilizing, too high a temperature (over 115° C.) should be avoided, in order to prevent deleterious changes in the constitution of the gelatin. The solution should be at the body temperature when injected. The injections are made in loose subcutaneous tissues, as in the abdominal walls or the buttock. Injection directly into the aneurismal sac has been suggested but not yet reported.

The details with reference to the dosage of gelatin for subcutaneous use, then, can not yet be regarded as finally settled. It is necessary on the one hand to employ sufficient amounts to produce the results aimed at, and on the other hand to avoid dangerous quantities. The degree of concentration of the solution is also an important point, in connection with the absorption of a substance with such physical properties as gelatin possesses. The absorbability of gelatin has been a subject of discussion. Calcium chlorid may prove to be the most useful ingredient to employ in association with the gelatin, instead of sodium chlorid, since the active coagulating power of calcium chlorid is now well known. Carnot, indeed, is extremely cautious as to the subcutaneous use of gelatin, preferring in its stead calcium chlorid, as being very efficient, safe, and capable of use by the mouth as well as hypodermatically. Ordinarily the injections of gelatin do not cause any material reaction or disagreeable consequences. At times, however, especially after the first or second injection, certain reactions may occur, which have been summarized by Deguy as follows: (1) fever, with slight rigors and insomnia, may follow for a day or two; or the injection may be followed at its site by (2) pain and tenderness, (3) a diffuse redness of the skin, or (4) induration.

The results reported from the subcutaneous injection of gelatin in various conditions are, briefly, as follows:

Aneurisms.—Lancereaux and Paulesco report results in five cases of aneurism. Two cases of aneurism of the arch of the aorta and one of subclavian aneurism were treated with succees, that is, a clot formed in the interior of the aneurismal sac, as shown by hardening, decrease in size, and cessation of pulsation of the tumor, together with relief of pain and other distressing symptoms and improvement of the general condition. In two cases of fusiform aneurism or dilatation of the aortic arch no benefit resulted. From this Lancereaux and Paulesco conclude that in fusiform aneurisms, in which there is no sac to favor coagulation, the gelatin treatment is not so efficient. Huchard of Paris treated two cases of aneurism, one successfully, the other unsuccessfully. Beck of New York reports treatment of a very large aortic aneurism with much improvement. Futcher of Johns Hopkins Hospital, Baltimore, reported treatment by this method of four cases of aneurism, three of the thoracic aorta, one abdominal, with improvement in one case, no benefit in two cases, death during treatment in one case.

Hemorrhages.—Huchard in a case of frequently recurring hemoptysis in a tuberculous patient employed gelatin injections, resulting in cessation of the hemorrhages. Lesage of Canada reports a case of habitual epistaxis and uterine hemorrhages treated by subcutaneous gelatin injections, with successful results. Hervieux of Canada reports a case of intestinal hemorrhage in typhoid fever, which had lasted four days, which yielded promptly to the injection of gelatin. Curschmann of Germany employed the subcutaneous method in fourteen cases of hemorrhage—six of gastric hemorrhage, six of pulmonary hemorrhage, one of typhoid intestinal hemorrhage, and one of hemorrhoidal bleeding, with cessation of the hemorrhage "remarkably soon" in thirteen of the cases. Arcangeli of Italy treated two cases of purpura hemorrhagica by this method, with "complete success." I find no report of hematuria (renal) treated, but gelatin might be worth trial in this condition. Jaboulay of France has suggested and practised the subcutaneous injection of gelatin prior to operations in which serious loss of blood is to be

expected, as in bleeders. He thus operated with marked results on a goiter and in an incision of a sarcoma of the breast.

2. *Local Use of Gelatin.*—The solution of gelatin mostly employed locally for the purpose of arresting hemorrhage consists of 5 to 10 per cent. of gelatin, with .6 per cent. to 1 per cent. of calcium chlorid or sodium chlorid, in 100 parts of water. This may be sterilized by heating to 100° C. for fifteen minutes daily for two or three days, avoiding a temperature much in excess of 100° C. The (10 per cent.) gelatin culture-medium used in bacteriological work can in case of need be melted and applied; pepton, which is ordinarily contained in this medium, has, it is to be noted, a distinct counteracting effect on the coagulating action of gelatin. If it is desired to make the solution antiseptic as well as sterile the usual antiseptics can be added, as .1 per cent. of mercuric bichlorid. Queyrat has suggested the addition of glycerin. When the gelatin solution is to be employed it is melted and brought just to the body temperature. It is applied by irrigation with, or injection of, a quantity, or by applying a tampon or compress saturated with it. The ordinary precautions as to asepsis are, of course, to be observed.

In addition to its hemostatic action it has seemed to some that the gelatin applied to a wound has a distinct nutritive action on the tissues and promotes the process of repair. This seems reasonable in view of the similar action claimed for the use of nutrients on wounds. On the other hand the gelatin affords a favorable culture-ground for bacteria in the wound or cavity affected; and to obviate this disadvantage, in cases where it is necessary to inject a quantity of gelatin and leave it for some time, as in intra-uterine injections, it has been recommended to add antiseptics like phenol or mercuric bichlorid, and not to leave the gelatin application too long. The use of gelatin in this manner is easy, and aside from possibly encouraging bacterial growth is perfectly safe and harmless. The method is available for use in all cases of hemorrhage, especially in hemophilia, in which the bleeding-point is accessible.

The conditions in which the local application of gelatin has been practised, and the recorded results, may be briefly summarized as follows:

Of epistaxis Carnot reports four, Siredey one, and Lesage two cases which promptly yielded to the gelatin treatment. Some of the cases were in bleeders, and were violent, persistent, and recurrent, and had resisted other treatment. In one patient with slight but continued bleeding from both nostrils following a blow on the nose I applied gelatinized tampons about four hours after the injury. The bleeding immediately ceased in one nostril, but continued in the other until the following day. Gaudier in three cases of removal of vascular tumors from the nasal fossa, followed by profuse and persistent hemorrhage, reports that the bleeding was easily checked by irrigating the bleeding-points with gelatin solution.

In gastric hemorrhages it has been urged that, on account of the action of the gastric juice, gelatin locally used would be inefficacious, but as this objection is based only on theoretical grounds it would seem that practical trial of the method would be worth making. Polyakoff reports a case in which hematemesis from a gastric ulcer, rebellious to other treatment, yielded immediately to the ingestion of 200 cubic centimeters of ten per cent. gelatin solution thrice daily.

In vesical hemorrhage, resulting from neoplasms of the bladder, Noguès reported treatment of four cases, without any favorable result.

Hemorrhoidal bleeding has been treated by local application of gelatin solution in three cases recorded by Carnot, Siredey and Lesage, with successful results.

In uterine hemorrhage the method has been employed, mostly by intra-uterine injections, also by gelatinized vaginal tampons, in thirty-two cases reported by Carnot (1), Siredey (9), Martin (1), Lachatre (20), and Bar and Keim (1). The hemorrhage was associated with chronic endometritis or metritis in fourteen of the cases, metritis with mucous polyp in one case; abortion, seven cases; fibroid tumors, six cases; cancer of the cervix, one case; laceration of vagina during labor, one case; menopause, one case; unknown cause one case. In all the cases except that due to menopause the treatment was successful and the hemorrhage definitely checked. Dalché also reports a case treated by gelatin in which a voluminous intra-uterine clot formed and caused much trouble, being expelled only with pain and difficulty.

In hemorrhage from superficial wounds Carnot and others have noted the efficiency of gelatin solutions locally applied by irrigation or by compress. Of course it would only be in exceptional cases of this kind, as in hemophilia or where ordinary means of hemostasis fail, that recourse to gelatin would be necessary.

I have had one case of hemophilia, in which profuse hemorrhage from an accidental wound ceased immediately upon the use of gelatin, which is here given in detail:

F. M., a dairyman, twenty-four years old, with a negative personal and family history and no history of hemophilia, on November 11, 1898, accidentally cut his right wrist and forearm on broken glass, ap-

parently while under the influence of alcohol, and was immediately brought to me. The wounds had bled very profusely and the patient was weak and excited. There were two wounds, one about four centimeters long on the anterior aspect of the right wrist, on the ulnar side, no tendons, large vessels, or nerves being found severed; the other about six centimeters long on the posterior ulnar aspect of the right forearm some eight centimeters above the wrist, in which an extensor tendon was partially divided. The wounds were cleaned, the divided tendon sutured with catgut, and the skin closed with horsehair; no vessels were ligated, bleeding being apparently checked by hot compresses.

The wounds were first redressed three days later, November 14th. They had been very painful and had bled freely into the bandages. On removing the dressings a jet of blood spurted at right angles from the wrist wound to a distance of a meter or two. This bleeding was checked by pressure and a dressing snugly applied. They were next dressed three days afterward, November 17th, at 2 P.M. The edges of the anterior wound were softened and necrotic. The posterior wound was apparently healed, except for some necrotic or purulent discharge at one end, and the stitches were removed from it. A rather loose dressing was applied. Pain and inability to sleep had continued, and the patient was pale, weak, and exhausted. Three hours after this dressing was put on the patient returned with the dressings completely saturated and dripping with blood, profuse hemorrhage having occurred; a new dressing was tightly applied.

During the following night and forenoon extremely profuse hemorrhage occurred repeatedly, saturating the dressings, bedding, and clothing with blood, and the patient was nearly exsanguinated. At 2 P M. November 18th, seven days after the original injury, I examined the wounds and found both widely gaping and filled with blood-clot and broken down tissue; blood was persistently oozing from the wound at the wrist, and the entire forearm was cold, blue, clammy, and much swollen. Although fairly certain that the case was one of hemophilia, I made a thorough search for bleeding vessels in the wound at the wrist, under chloroform, in order to be assured that the trouble was not due to primary or secondary hemorrhage. Incisions radiating from the edges of the wound were made and flaps turned up to expose it to its depths. The tissues were completely saturated and infiltrated with clotted blood, and the different kinds of tissue, ligaments, tendons, muscles, etc., all looked alike and were quite indistinguishable from one another; they were soft and friable, and tore easily in the forceps. No bleeding vessels were found, though several catgut ligatures were inserted deeply and tied. The bleeding seemed to consist of a general oozing, and was not checked even by the tourniquet. In view of recent results reported from the use of gelatin in hemophilia, a bacteriological culture-tube of sterile ten per cent. gelatin was melted and poured into the wound, after suturing the new incisions, iodoform gauze was packed in, and the wound dressed. Ergot was also ordered, a teaspoonful of the fluid extract, three times a day.

Little hope for the patient's recovery was entertained, and further hemorrhage would undoubtedly have proved fatal. From this time, however, an unexpected and most happy change in the course of the case took place. No more bleeding occurred, the pain disappeared, the patient became comfortable and was able to sleep. The wound was dressed November 20th, two days after the application, and was found in a highly favorable condition. The swelling and cyanosis of the forearm had entirely subsided, it was warm and rosy and its circulation good. The ecchymotic and broken down tissue in the wrist had undergone liquefaction necrosis and been absorbed into the dressings, leaving a nicely granulating ulcerated surface four or five centimeters in diameter. It was again dressed with gelatin, as before, and the ergot continued two days longer.

Henceforth the case followed the course of a healthy granulating ulcer, uninfected, and was treated in the ordinary manner. Early movement of the fingers was insisted on, and in five weeks the ulcers entirely healed, with motion and sensation of the fingers practically unimpaired.

In this case a hemorrhage which had been violent and uncontrollable for a week ceased immediately and in the most marked manner upon the application of gelatin, the administration of ergot, and the performance of an operation which apparently accomplished nothing. The result is probably to be attributed to the gelatin. The rapid improvement in the condition of the wound is also perhaps in part attributable to the local nutritive action of the gelatin.

In conclusion, it is perhaps too early as yet to fix a final estimate of the value of the hemostatic use of gelatin, but if such successful and remarkable results can be constantly obtained as have been claimed by some observers, it is certain that the agent would be of great value in the treatment of some very serious and intractable conditions. No claim has been made that gelatin is a specific in any class of cases, nor that it should supersede ordinary methods of hemostasis. In cases which resist other methods of treatment, and such cases are usually very serious and even desperate, gelatin offers some hope, if only a forlorn hope, of success. If only a portion of cases of hemophilia, which is such an appalling and disastrous complication, or of inoperable aneurisms, the treatment of which heretolore has at best been uncertain, yield to this agent, any proportion of lives thus saved, however small, will be ample justification for the use of gelatin.

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*MICROBES AND COLD.**

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THE question of the resistance of microbes to cold has been discussed by most writers on bacteriology. It is to an American scientist that we owe the best work on this subject. Professor Prudden[1] deduced from his investigations of the growth of microbes in vessels surrounded by snow certain scientific principles which have not lost their value, and which may serve as criteria that will enable us to judge of the vitality and development of microbes at low temperatures.

In order to arrive at rational and exact conclusions, it is necessary to conduct our experiments as far as possible in such a way as to imitate the conditions found in Nature. Unfortunately Nature very jealously guards the secret of the methods by which microbes live and develop and succeed in invading organisms of a higher type; and it is impossible to reproduce in the laboratory the conditions presented in the production of disease. It is, for example, absolutely impossible to reproduce experimentally all the biological vicissitudes to which pathogenic microbes are exposed in sea-water or in potable water. The chemical constitution, the presence of organic substances suspended in the water, its movement, the variations of temperature, and the influence of light and air, the effect of the coexistent aquatic flora, the quantity, the age, the source, and the vitality of the species of microbes which occur in the water, are all conditions impossible to reproduce. It is nevertheless certain that every one of these conditions has its special influence on the micro-organisms contained in the water.

Prudden and Fraenkel[2] found in falling snow thousands of bacteria. Odo Buiwid demonstrated in hailstones a very large number of micro-organisms identical with those isolated from the soil of the locality in which the hail fell. On the other hand, Dr. Lewin of Stockholm in a recently published monograph detailing a series of investigations made during an island tour near Spitzbergen, announces that he found very few bacteria, not only in the snow of that region, but also in the intestines of a number of animals which he killed and examined on the spot. The intestine of a white bear proved, even after careful examination, to be completely sterile as far as bacteria were concerned. These results agree perfectly with the excellent hygienic conditions which prevail in these islands, for in them the ordinary maladies of the temperate region are almost unknown. The variations of temperature at that high degree of latitude are very sudden, and it is a well established fact that coryza, bronchitis, pneumonia, and the ordinary infectious intestinal diseases are quite unknown.

When we consider that Prudden found that the typhoid bacillus survived an exposure on the snow of 113 days, we can only arrive at the conclusion that while it may be true that cold can delay the development of microbes, permanently acting low temperature is necessary to deprive them of life. The factor which most of all brings about this destruction of microbes in very cold climates is the fact that the nutritive media

*Translated.

from which they normally derive their sustenance are so modified by extremely low temperatures as to no longer furnish them with the means of existence. The prolonged continuance of this state of affairs brings about the death of the bacteria. They may remain dormant for long periods, however, before death finally takes place.

The conclusions that may be drawn from these facts are applicable in epidemiology. In countries where the cold is intense and continuous for lengthy periods it influences not only the vitality of the microbe itself, but also all the substances that might supply it with nourishment. Hence it is very difficult to have a repetition of an epidemic in a cold climate even during the warmer weather which follows the intense cold. The exceptions to this rule demonstrate only the possibility of the continuance of microbic life despite the prevalence of low temperature. This possibility can be demonstrated as an absolute fact when microbes are transferred from the natural media on which they grow to artificial media.

Microbes require practically the same elements for life as plants of a higher order demand. Not only must conditions of temperature be favorable, but the soil to which the plant is transferred must be good, the transplantation must be carefully done, and a sufficient quantity of suitable nourishment must exist in the new soil. These last conditions are more important, as far as life is concerned, than temperature.

I do not wish, however, to be set down as expressing the opinion that the results which may be deduced from the study of epidemics are always constant. Hirsch seems to have established, and in this he is in agreement with practically all the observers on this subject, that the development of the germ of yellow fever occurs only between 22° C. and 25.5° C. (71° F.–76° F.), was not able to find any exception to this rule, except the epidemic at Georgetown in Guiana in the year 1852, the development of which coincided with a temperature of 19.8° C. (67.6° F.). In spite of this law that Hirsch considers to have practically no exception, the *Siglo de Montevideo*, a daily paper published in the capital of Uruguay, announced on the 8th of last June that cases of yellow fever were occurring at that time in Buenos Ayres in the Argentine Confederation. The wording of the announcement is of special interest. It says:

"With reference to the spread of cases of yellow fever in this city, while the temperature is little less than Siberian, it may be said that we have in this fact a phenomenon which completely refutes all the theories and opinions so far entertained with regard to yellow fever. Its occurrence during such cold weather has been the source of a great deal of surprise to scientific medical men." It will scarcely be necessary for me to add that Buenos Ayres is situated between the thirty-fifth and thirty-sixth degrees of south latitude, and that as a consequence the month of June there corresponds to our month of December. Likewise Dowler[5] makes the statement that in the epidemic of yellow fever in Northern Louisiana in the year 1853 he did not observe the slightest variation in the progress of the disease in a number of places despite the fact that frost was almost constantly occurring during the nights. Fenner of Mobile[6] relates that in the same year, though there was a severe frost on October 31st in New Orleans, he observed, nevertheless, a number of cases of yellow fever which occurred among people who had returned to the city from the camps after they thought all danger was over. In Memphis in 1878–79, in Cadiz in 1800 and 1801, in Malaga in 1808 and 1809, epidemics of yellow fever occurred two years in succession without having been imported.

But these, of course, are exceptions. The real question of interest for us consists in finding out whether microbes can exist at low temperatures. It is admitted by everyone that their reproduction and development are practically impossible during exposure to severe cold. Sternberg and Novy have made a deplorable error in this matter in not distinguishing between arrest of development and the death of microbes. When cold causes an epidemic to cease who can calculate how many days, or how many weeks, or how many hours even, the germ may continue to live? It would be absurd to claim that a microbe was dead simply because an epidemic had ceased. For instance, in the northwest of Hindostan and in the Punjab, cholera always ceases to be epidemic during the winter, yet frequently is aroused to epidemic activity the following spring. At Memphis the epidemic of yellow fever ceased completely during the winter of 1878, and yet broke out afresh in the spring of 1879.

But when we pass from the field of Nature to that of experiment the problem of microbic life is very much modified. We do not know the method by which Nature supplies micro-organisms with the organic substances necessary for their nutrition, nor how she supplies them with light and air. One thing is certain, our artificial media compel microbes to live a life quite different from that which they live in Nature. It is for that reason that all bacteriologists recognize as a law in biology the principle that may be stated about as follows: When micro-organisms pass from natural to artificial media they always undergo more or less important modifications. As an

example of this law may be cited the virulence which a microbe may acquire, though it did not possess it when first isolated. The typhoid bacillus furnishes a good instance of this. It does not possess great virulence when first isolated from the cadavers of those who have died from typhoid fever. When grown on artificial culture media it is but moderately pathogenic, but acquires distinct virulence later on. The bacillus of the plague, when first isolated from the cadaver and grown in bouillon cultures is virulent even when taken by way of the digestive tract. But after two or three passages through animals it loses some of its virulence, no longer produces the disease when taken by way of the digestive tract, and causes symptoms of the disease only when administered subcutaneously or intraperitoneally. It may be added, however, that microbes undergo modifications not only as to their pathogenic manifestations, but also with reference to the resistance which they ordinarily offer to various inhibitory influences, both physical and chemical.

Cultivation in the ordinary media makes great differences in the vital resistance of microbes. The biology of the gonococcus furnishes a very convincing proof of just this fact, since its failure to resist external agents, and especially low temperature, depends on the extreme difficulty of accustoming it to grow on artificial media. It will not be out of place since this microbe has been quoted as one of those that offer very little resistance to low temperatures to review a little of its life in the laboratory.

Wertheim employed a mixture of human serum with serous fluid, which remained liquid at 40° C. Christmas, after having tried all the albuminous liquids that could be obtained from human beings, the serous fluid of ascites, of pleurisy, and a number of other animal serums, found that the serum of the rabbit was the best nutritive medium on which to grow it. The microbe develops abundantly, but does not remain alive more than three or four weeks, though sometimes it has been kept alive for two months after inoculation. The best results have been obtained in liquid culture media employing ascitic fluid with three parts of peptone bouillon. Glucose may be a useful addition to the medium, but must not be added in more than a proportion of one per thousand. In this mixture the gonococcus develops, but the development does not begin until the second or third day at 38.5°C. (101.3°F.) and proceeds gradually until the seventh or eighth day at which time development is complete. If from this first liquid-culture, however, one wishes to make a second inoculation it does not succeed, that is to say, the microbe will not permit a passage from the first tube where it has developed to a second one.*

The transference of the gonococcus when taken from the urethra and inoculated on serum requires special precautions. The pus should be evenly spread on the surface of the coagulated fluid and not a moment must be lost in placing the tube immediately in the brood-chamber, otherwise the organism will not develop. Even under these circumstances it develops only between 32° C. and 38.5° C. (89.6°F.–101.3° F.). If the temperature is below 32° C.; or above 38.5° C. no development takes place. The inoculated gonococci die in a few hours at 15° C. (59° F.). That is to say at 59°F., not at 15°F., as Dr. Novy wrote erroneously.

This brief review of the bacteriology of the gonococcus shows that it is absurd to quote this microbe as an example of those which do not resist cold. Its extreme delicacy under ordinary circumstances, which permits it to live only for a few days even on its favorite culture media, human and rabbit serum, show that it is almost as absurd to talk of the vitality or resistance of the gonococcus as it would be to talk in the same manner of the spirillum of Obermeier, for which, as is well-known, we have as yet no successful culture medium. Besides it must be remembered how readily the pathological liquids on which the gonococcus is grown become modified by circumstances, for this tendency has an important influence on the vitality of the gonococcus.

Let us apply the biologic law mentioned above to the microbes of two diseases which are almost absolutely endemic in tropical regions, the vibrio of cholera and the bacillus icteroides. Let us suppose for the moment that neither cholera nor yellow fever has ever made its appearance during a cold season. When the bacillus icteroides and the vibrio of cholera are first isolated from the cadaver they do not easily adapt themselves to life in bouillon. It is only after a time that they acquire an adaptation to artificial culture media. The first inoculations in bouillon always give very sparse growths. Later, however, both bacilli adapt themselves to the artificial media; cultures in bouillon may be obtained regularly and considerable cloudiness showing abundant growth always results. Their conduct during this process of adaptation to artificial media shows that both microbes are possessed of considerable resistive vitality. It is true they may lose some of their virulence during the process, for it is to be remembered

* Dr. Heiman's researches in this country with reference to the gonococcus are a very interesting confirmation of the facts already known as to the extreme delicacy of the gonococcus when grown on artificial media. The detailed account of his work will be found in the *Medical Record* for June 22, 1895, December 19, 1896, *et. seq.*

that the virulence of a culture may be in inverse proportion to the activity displayed in development.

I brought with me from Montevideo some tubes containing cultures of the bacillus of Sanarelli. Of these, two proved to be sterile as far as further inoculation into bouillon or upon agar were concerned. Two of them, however, gave very abundant growths in bouillon, but the specific virulence of the microbes was practically nil. A rabbit inoculated with 1 c.c. of culture lost but 300 grams in weight in eight days and then began to recover. When the microbe was first isolated from the cadaver of a patient dead from yellow fever it was extremely virulent and it required but a very small quantity to kill a rabbit in from two to four days, for the rabbit is very sensitive to the bacillus icteroides as a rule. As a consequence it is possible that, despite the fact that neither cholera nor yellow fever may ever have made their appearance during the winter time, the germs of these diseases may adapt themselves to life on artificial media and possess under the new biologic conditions a resistive vitality that they do not possess when grown on natural media.

Besides this it is far from scientific to expose a microbe to cold when grown in a tube of bouillon or agar and then argue as to its vital power. Practically this would be same thing as to expose a tropical plant to cold under such artificial conditions that it is well protected from cold. An argument founded on such fallible experimental observations would have as little weight as the personal experiments performed by Dr. Chervin in 1816 at Pointe a-Petre in the Antilles. Dr. Chervin drank large quantities of the black vomit from yellow-fever patients and for some time wore their clothing; as he did not contract the disease he drew the conclusion that yellow fever was not contagious.

The serious scientific observations which have been made with reference to microbes and cold seem to have been completely lost upon those who would demonstrate that the bacillus icteroides is not the cause of yellow fever because it continues to live in spite of exposure to low temperatures. Too many insoluble problems are connected with this intricate question of the behavior of microbes to cold to allow it to be used as a simple criterion by which to judge of the pathogeneity or non-pathogeneity of a given micro-organism. Those who found their arguments upon this behavior to cold, seem to have lost sight of certain physical laws regarding the action of refrigeration on organic substances generally. Besides they do not seem to have recognized the fact that a symbiosis of microbes with certain parasites of a higher order may lead to a prolongation of life under unfavorable circumstances. They seem also to have confounded living with the power of propagation, etc.

In this matter a look at the exact period in which various epidemic affections begin to develop and are arrested in a certain focus of disease will prove very interesting. As a matter of fact epidemics of yellow fever begin in Rio Janeiro usually in the month of February; in Havana the month in which most cases of the disease have usually occurred has been September. In New Orleans and Charleston most cases occur from August to November. In other words, it is necessary that the warm weather should first, for a time, elaborate the nutritive materials which are necessary for the development and for an increase of virulence of the micro-organisms. It is only after this has occurred that the germ of yellow fever becomes sufficiently increased in virulence to invade the human organism. If temperature alone were the only factor on which its power to attack human beings depended, then, at Rio Janeiro the epidemics would begin as a rule in November or December. In Havana, June would be the worst month for the disease and it would be about the same time of the year that epidemics in New Orleans would be at their height.

From these facts I think we can deduce the conclusion that all microbes offer resistance to temperature that bears a certain relation to the medium in which they live and that this relation varies not only for low temperatures, but also for temperatures above the normal. Chamberland demonstrated in a two-branched Pasteur tube that the spores of bacteria exposed to boiling temperature offered a resistance to heat which varied according to the nutrient medium in which they were placed. In liquid yeast, for instance, spores of bacteria remained alive for five hours after boiling. In a hay infusion they also remained alive for five hours, in a Liebig bouillon solution they remained alive but for three hours, in must of grape that had been carefully neutralized they were killed by boiling in half an hour. In a nutritive solution whose acidity was more than two per thousand bacteria remained alive at a boiling temperature for only ten minutes.

In conclusion then we may say that the temperature exerts an influence on microbes which bears a direct relation to the media in which they are being cultivated, and the resistance they offer is just so much greater as the media on which they live, whether they be natural or artificial, are favorable to the vitality of the microbes.

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[7] Bryant (Louisiana) is quoted as to the influence of low temperature by Jaccoud in his "Pathologie Interne." He quotes also Keraudren, Bertulus, and Drake.
[8] Davidson, "Hygiene and Disease of Warm Climates." Edinburgh and London, page 287, 1893.
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EXAMINATION OF THE BLOOD IN SURGICAL DISEASES.[1]

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ALTHOUGH this branch of physical diagnosis has been known but a few years it has advanced with such rapidity that it has now reached the position of an important, often indispensable, method. Not only in surgical diseases, of which this paper is a partial review, but in medical practice also is found a field even wider and of greater practical application, concerning which another paper is to be read at a subsequent meeting. The enumeration of the red corpuscles can be but briefly mentioned, as the subject could well occupy the entire paper, and I will but call attention to the variation in their number occurring after hemorrhage. Immediately following the loss of considerable blood little change in the blood elements will be noticed as the loss has been general and the proportions remain the same. Within an hour, however, fluid begins to enter the vessels from the tissues, greatly diluting the serum but producing more volume for the heart to contract upon and thus raising the blood pressure. This dilution of the serum of course produces a corresponding diminution in the number of red corpuscles (the white, as we shall see later, are not decreased). A count, therefore, in a case of hemorrhage will show a decrease in the number of red cells to even as low as one or two million per c.mm., whereas the normal is about five million. It is readily seen how valuable such evidence may be in the diagnosis of a hemorrhage into closed cavities.

In connection with the same emergency (hemorrhage) the value of estimating the hemoglobin present may be considered as this substance diminishes proportionally with the diminution in number of the red cells. Attention might be then called to the attitude of the well known surgeon Mikulicz, who is so fully convinced of the value of blood analysis that he has formulated the rule: never operate on any case when the hemoglobin is below thirty per cent. This is applicable to all cases where this reduction in hemoglobin is found and not to those of hemorrhage only.

The white corpuscle or leucocyte is at present receiving a very great amount of attention from pathologists. Its prominent local activity in all inflammatory conditions has been thoroughly recognized, since the researches of Metschnikoff, Buchner, Massart and others, but concerning its actual utility either in an area of inflammation, or in the circulation in certain inflammatory disturbances, there is still some dispute. It seems more than likely, however, that it is the function of the leucocytes to produce some material concerned in counteracting the toxins produced during the disease. The orginal theory of Metschnikoff that "inflammation is a combat waged by the cells against intruders or disease producers," has undergone some modification; as Ziegler says "such a manner of characterizing the phenomena of phagocytosis amounts simply to a poetical way of expressing one's self and does not do justice to the essential facts." However, no matter what the functions of the colorless corpuscles may be, it is certain that in various diseases their enumeration affords opportunity for both differential diagnosis and prognosis. The leucocytes are normally present in the peripheral circulation in the proportion of from six to nine thousand per cubic millimeter, and any temporary secondary increase is spoken of as a leucocytosis. In all cases of inflammatory disturbance accompanied by pus formation leucocytosis is an invariable accompaniment (except in a few instances to be mentioned further). The suppurative process may be acute or chronic, deep-seated or superficial, encapsulated or diffuse, but the leucocytosis is present. Before detailing some of the conditions where the application of this fact is of practical importance some general laws should be cited. (1) The leucocytosis is not confined to the area involved in the inflammatory action. It is found throughout the peripheral circulation. (2) Pathologic leucocytosis must be differentiated from the normal digestive leucocytosis, which commences about one hour after eating and continues for two to four hours, depending upon the rapidity with which digestion takes place. It is therefore best when examining the blood to count the leucocytes just before or just after a meal. The preferable time is just before breakfast. (3) Leucocytosis occurs in the majority of cases of pregnancy during the last five months. (4) As a rule pathologic leucocytosis is in excess of what a physiologic leucocytosis would be, in the latter the white cells rarely exceeding twelve or fourteen thousand to the cubic milli-

[1] Read at the Annual Meeting of the Medical Society of Virginia, held at Richmond, October 24, 26, 1899.

meter. The reliable method of differentiating in doubtful cases lies in choosing the proper time for the examination.

Among the more prevalent and important diseases in which leucocytosis is found the following may be mentioned.

Abscess.—Whether the accumulation of pus be of recent origin and accompanied by acute inflammatory disturbances or is chronic ("cold"), the increase in the number of leucocytes still holds good. The presence of pus is revealed by the blood-count, and neither the thickness of the abscess wall nor the pressure under which the pus is elaborated seem to influence the number of leucocytes. The presence of leucocytosis begins with the formation of pus and increases with it. Leucocytosis is not always proportionate to the amount of pus present; the writer has counted the leucocytes in a case of a small abscess on the back of the hand and found 27,000 to the cubic millimeter, while in a case of purulent appendicitis there were 17,000 to the cubic millimeter. This may appear at first glance to detract from the value of the count, but such is not the case. In both cases the blood examination proved the existence of pus, and taking each case separately we would find a leucocytosis varying as the amount of pus increased and diminished. As a matter of fact, the amount of leucocytosis is due, not so much to the mere presence of pus as to the resisting power of the patient.

Abscess of the liver may be affirmed or excluded by counting the leucocytes. The deep-seated nature of this trouble often is a serious obstacle to a correct diagnosis by physical examination and many diseases may simulate it, such as malaria, duodenal catarrh and impacted gall-stones. In case No. 10 the diagnosis was confirmed by blood count, while on another occasion (case No. 11) a negative diagnosis was also confirmed by further examination. Not infrequently in laparotomies performed for the removal of suppuration foci a temperature will develop on the second to the fifth day which may be due to reinfection, impaction of feces, or malaria. The existence of a pocket of pus (case No. 22) is readily determined by counting the leucocytes.

Appendicitis.—In this disease more than in any other has the value of a leucocyte count been demonstrated, and the majority of surgeons regularly make blood counts in suspected cases. The leucocytosis of appendicitis varies, in a measure, according to the form and amount of inflammation. In simple catarrhal appendicitis the leucocytosis may be absent or very slight, depending on the amount of inflammatory reaction which has occurred in and about the wall of the appendix, while in purulent and gangrenous appendicitis the number of leucocytes is always increased, often to a marked degree. The fact that leucocytosis is not constant in catarrhal appendicitis is by no means an objection to the method, as surgical intervention is not indicated in this form during the attack (case No. 6). As the disease progresses, however, with resulting pus formation or gangrene, leucocytosis appears and is a reliable index to the advance of the disease and the necessity for immediate surgical intervention. Hence it will be seen that this point may be of very great value in diagnosis, differential diagnosis and prognosis It detects the advance of a case from the simple catarrhal form to the purulent or gangrenous, *i. e.*, from the non-operative to the operative; and in the latter form it shows the true progress of the disease irrespective of prominent symptoms, which are too often misleading (case No. 4). The greatest practical applicability of this method will be found in the differential diagnosis of appendicitis.

Diseases which often simulate appendicitis, such as hepatic or renal colic, intestinal colic, intestinal obstruction (without gangrene), fecal impaction, typhoid fever, nephralgia, floating kidney, ovaralgia, old adhesions (quiescent), and tubercular peritonitis, are all readily differentiated by their failure to cause leucocytosis. Three times has the writer decided against appendicitis in cases which subsequently proved to be typhoid fever (cases No. 1, 2, 3), and on one occasion a diagnosis of impacted gall stones was suggested in a case where appendicitis was suspected (case No. 7).

Pyosalpinx.—This disease is frequently met with and has to be differentiated from, a prolapsed and inflamed ovary, ovarian neuralgia, ectopic gestation, small extraperitoneal hematoma or inflamed fibroid. The diagnosis is usually easy (cases Nos. 19-20), as any pelvic lesion attended with leucocytosis is almost certainly a pus tube or other localized collection of pus.

Osteomyelitis.—Patients with suppurative disease of the medulla of the bone who have been treated for considerable periods of time for "rheumatism," neuralgia, or even thought to have typhoid or malaria have been met with by most physicians, and often the diagnosis has been made only when pus has risen to the surface and "pointed;" a time when surgical intervention is practically powerless to effect any relief. Indeed such cases are not always readily diagnosed even by expert clinicians. The persistence of the disease, however, should arouse suspicion, and in cases of osteomyelitis a blood examination will always reveal a marked leucocytosis unless the osteomyelitis be tubercular (case No. 18).

Tuberculosis.—This disease appears to the surgeon in many disguises and the question of the tubercular or non-tubercular character of a case often assumes a serious aspect. Fortunately, in pure tubercular lesions, whether accompanied by pus formation or not, there is no leucocytosis; indeed there is little change in the blood Should a tubercular knee-joint, for instance, become infected with pyogenic micro organisms, the leucocyte count at once rises. In a case of cervical glandular enlargement with fluctuation, absence of leucocytosis established a diagnosis of tubercular abscess which was confirmed by subsequent examination of the pus (case No. 17).

Shock.—The question is often an anxious one to the physician and surgeon whether a given case of shock is due to concussion or compression or to hemorrhage. If the case be one of shock of nervous origin, the blood will show no change, while in the shock of hemorrhage we find the red corpuscles reduced, as already mentioned, and the leucocytes increased. This leucocytosis commences within an hour or so after hemorrhage has occurred and persists for days, sometimes weeks. The value of this fact can hardly be overestimated when we consider how frequently the question of the advisability of employing transfusion arises. The old method of judging the appearance of the patient has proved itself sufficiently unreliable, in addition to its being unscientific. Cabot[1] says "The right decision of this question is of great importance, for if the 'shock' means anemia, transfusion may be indicated, while, in a condition of cerebral concussion or compression transfusion will probably do harm."

These are but a few of the diseases in which a blood-count is often applicable and I doubt not that the value of this method is recognized by all. From fifteen to thirty minutes of bed side work may be done, and the result is, that many an obscure case is cleared up, or a prognosis can be made which will relieve the strain of both physician and friends. The following are some cases selected from the writer's work during the past year or so, bearing more or less directly on the diseases mentioned in the body of the paper:

Case I.—Male, adult, indefinite abdominal symptoms referable to either typhoid or appendicitis; leucocytes, 7300; case ran a typical typhoid course.

Case II.—Male, child, case thought to be appendicitis, operation advised by consultant; leucocytes, 6800; diagnosis of typhoid confirmed by Widal's test.

Case III.—Female, seventeen years; sick one week; all symptoms referable to right side; leucocytes, 6100; diagnosis, typhoid fever.

Case IV.—Male, adult; appendicitis; symptoms of abscess; leucocytes, 19,600. Twenty four hours later temperature, pulse, and general condition better; leucocytes, 22,000; next day symptoms still improving; leucocytes, 27,000. Operation urged, as abscess was believed to be increasing in size; on operating found necrotic appendix, in abscess cavity containing nine ounces of pus.

Case V. — Male, thirteen years; leucocytes, 31,200. Gangrenous appendix found.

Case VI.—Male, adult; appendicitis diagnosed. Question of advisability of operating, as symptoms of pus formation, high temperature, chills, etc., were present. Leucocytes, 9600. Catarrhal appendicitis diagnosed. Ten days later operation showed appendix surrounded and bound down by many adhesions; no pus.

Case VII.—Female, adult. Appendicitis suspected. Leucocytes, 7400. Further search showed impacted gall-stones.

Case VIII.—Male, twenty-nine years. Appendicitis diagnosed in preceding attacks; present attack a mass is felt in right lumbar region. Leucocytes, 7000. No diagnosis made other than that surgical intervention was necessary. Operation showed obstruction due to old adhesions; appendix normal.

Case IX. — Female, adult; symptoms of obstruction of gall-bladder. Leucocytes, 14,000. Operation showed empyema with impacted gall-stones.

Case X.—Male, adult; symptoms of fever, chills, sweats, and nausea. Leucocytes, 17,200. Diagnosis, hepatic abscess. Operation showed large abscess of right lobe.

Case XI.—Male, adult; supposed case of hepatic abscess. Leucocytes, 6800, excluding pus. Subsequent examinations revealed abdominal aneurism.

Case XII.—Female, adult; leucocyte count of 31,000 established the diagnosis of mammary abscess.

Case XIII.—Female, adult. The clinical symptoms of appendicitis with abscess formation were corroborated by a leucocyte count of 16,000.

Case XIV.—Female, child. Case was being treated for malaria, and while examining for plasmodium a leucocytosis of 24,000 was found. Further search revealed purulent appendicitis.

Case XV.—Male, child. Case of peritonitis, tuberculosis suspected. Leucocytes, 19,300. Tuberculosis thereby excluded.

Case XVI.—Male, adult. Leucocytes, 28,700. Pus somewhere was diagnosed three days before a perinephritic abscess was discovered.

Case XVII.—Female, child. Enlarged cervical gland with fluctuation. Leucocytes, 6200. Diagnosis, tubercular abscess.

Case XVIII. — Male, adult. Case was being treated for muscular rheumatism, and blood examination was asked for to detect indications of malaria. The leucocytes were found to be 20,600, and the suspicion of osteomyelitis was afterward confirmed by operation.

Case XIX.—Female, adult. Pus tube suspected

[1] "Inter. Text-Book of Surgery," vol. i., p. 81.

from examination of tumor. Leucocytes, 8000. Diagnosis, inflamed ovary, confirmed by progress of case. Patient made rapid recovery under appropriate treatment.

CASE XX.—Female, adult. Pus tube suspected. Leucocytes being only 7900, pus was excluded. Case proved to be prolapsed and painful ovary.

CASE XXI.—Male, adult. Thrown from horse, badly bruised. Leucocytes being 9100, red cells 4,700,000; a diagnosis of concussion was made, which proved correct.

CASE XXII. — Female, adult. Laparotomy for pus tube. On fourth day temperature was 101° F., and patient had a slight chill; wound healthy. Leucocytes, 23,700. Pocket of pus diagnosed and confirmed by vaginal examination. Vaginal drainage released an ounce of pus and relieved all symptoms.

422 WEST MAIN STREET.

CLINICAL MEMORANDUM.

LOSS OF INTESTINE AND ITS EFFECT ON THE NUTRITION.

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NEARLY five years ago I reported[1] a successful case of intestinal anastomosis after the loss of two and one-half feet of intestines. A few years ago it was held that the loss of more than a few inches or a foot of intestine would certainly prove detrimental to adequate body nutrition, but the following list adapted from a paper on the subject by Professor Francis J. Shepherd[2] shows the possibilities of recovery:

	Operator.	Total Loss	Nature of Lesion.	Time After Which Health was Still Fair.
1	Ruggi	130 inches	Multiple Stricture	Two years
2	Shepherd	92 "	Tumor of Mesentery	Seven Months
3	Kocher	82 "	Railway Injury	Six Months
4	Koeberle	73¼ "	Multiple Stricture	" "
5	Kocher	63 "	Strangulated Hernia	" "
6	Schlange	53 "	" "	Two years
7	Eliot	48¾ "	Gangrene of Intestine	" "
8	Roux	48¾ "	Tumor of Mesentery	Six Months
9	Trombetta	43½ "	(Not stated)	" "
10	Werder	42 "	Tumor of Mesentery	" "
11	Hahn	31½ "	(Not stated)	" "
12	Beaver	30 "	Strangulated Hernia	Five years

Grybicky, who experimented largely upon lower animals, concludes, after much careful study, that in an emergency a healthy adult can afford with impunity to surrender as much as nine and one-half feet of intestines; but all the authentic cases of considerable loss of intestine thus far reported neither prove nor disprove the correctness of his statement. Ruggi's extraordinary case occurred in a boy, and the total loss stated represents the excision of the intestine at two different operations, separated by a considerable interval of time. In another case, No. 3 in the list, there was a marked tendency to diarrhea, and in a few others the history shows that careful dieting was necessary to avoid this condition. True, the majority of patients on the list gained flesh and showed no serious disturbance of digestion or assimilation, but this condition of physical well-being seems due rather to the mild character of the lesion which necessitated the operation rather than to any other feature of the case. Other conditions being equal those patients having a traumatic lesion can bear a greater loss of intestine than those having a pathologic lesion. This may be seen in comparing the conditions found in multiple stricture, gangrene or tumor of the mesentery with those of simple strangulation.

The case which I reported, with an operation by Doctor Beaver, was uncomplicated from first to last, and now after the lapse of five years the patient continues in excellent health, and is even better than before his loss of thirty inches of intestine. I quote the closing paragraph of the first report: "The gain in flesh after the resection and before the patient left the house was considerable. In the fifth week, when he was weighed, twenty-two pounds of his original weight were still lacking. The first week after weighing he gained six pounds; the second week, four pounds; the third week, three pounds; the fourth week, two pounds; and in the thirteenth week after the operation, which was to establish a fecal fistula and the eighth week after resection, he reached his former weight and felt as well as ever."

The resection was effected by the aid of a Murphy button which was voided quite unbeknown to the patient on the seventeenth day. Twelve hours after the operation for resection he had the first fecal movement, his first rectal discharge in five weeks. After the eighth day he had daily movements: at first there were four or five stools each day but later they became fewer. The manner in which the normal intestinal functions returned, as judged by the stools, was interesting. After a few weeks the number of daily stools was reduced to three; two occurring in the early morning and one at night. The stools were then thin and unformed. A few weeks later he had but two daily movements, night and morning, and the stools began to be partly formed. Later still there was no night movement and formed stools became the rule. Up to the present time he has had one normal stool daily with a clock-work regularity. After sufficient time had passed to complete cicatrization all restrictions of diet were removed and he has since eaten and worked as usual. His body weight has fluctuated between 150, his weight before operation, and 164, according to the season. He no longer has a hernia and is in every particular in perfect health.

1938 SO. 12TH STREET.

[1] MEDICAL NEWS, January 19, 1895.
[2] *Montreal Medical Journal*, December, 1897.

MEDICAL PROGRESS.

Ludwig's Angina.—HAMANN (*Cleveland Jour. of Med.* September, 1899) thinks it better to drop the term "Ludwig's angina" as it is applied to a number of different inflammatory conditions in the neck whose etiology and course are now well understood. They are produced most commonly by infection through the lymphatics from some lesion of the mouth or pharynx. Laryngitis results

and then lymphadenitis, and to the latter is often added perilymphadenitis with cellulitis. A much rarer mode of infection is through the ducts of the salivary glands, particulary the submaxillary. In cases of gangrenous diphtheria cervical abscesses may form containing a thin putrid pus. The description of the cervical fascia has been made unnecessarily complex. What one needs to know is that there are certain spaces between the various organs of the neck filled with a loose connective tissue that allows the mobility of the parts. Into these areas inflammatory processes extend and in them pus forms. If the lymphatic glands contained within the capsule of the sub-maxillary gland suppurate, there will result marked tension of the capsule with more or less surrounding edema. Another space for infection lies between the trachea, larynx, and thyroid, and the muscles in front of them. Abscesses situated here may press upon the air passages and extend into the anterior mediastinum. A third space is around the great blood vessels of the neck. Abscesses here will raise the sternomastoid muscle and may point between this muscle and the trachea or may extend into the mediastinum. A fourth space is behind the esophagus and pharnyx and is known as the retro-visceral space. Post-pharyngeal abscesses occur in this situation. A fifth space is at the lower end of the sternomastoid, bounded posteriorly by the great vessels and the scaleni muscles. This space is in communication with that of the carotid and jugular vein and also with the axilla. These spaces are not entirely separated from one another but an inflammatory process beginning in one of them does not extend to others until tension is considerable. The extent of edema and induration may make it impossible to say, however, in what space the trouble began if the patient is first seen some time after its commencement. Sometimes there is a board like induration of the whole side of the neck. This may remain for days or weeks and then subside without the formation of pus or with the formation of one or many small abscesses. The author recommends the application of hot poultices and a small incision as soon as the presence of a soft spot indicates the existence of pus. Closed artery clamps are then introduced into the abscess and the wound stretched by separating their blades. Gauze drains or drainage-tubes, if the pus is thick, and wet dressing complete the treatment.

The Rubber Finger-Cot in Obstetrics.—BOND (*Maryland Med Jour.*, October 14, 1899) recommends the rubber-finger cot for vaginal examinations, especially in obstetric cases. It protects the finger from poison, it glides easily into the vagina, and does not bring away the lubricating mucus to the extent that the bare finger does. The vulva should be washed, the labia separated, and covered with a fold of fresh gauze or a piece of fresh muslin containing a vertical slit. The finger may then be introduced without coming in contact with any unsterilized surface. By these simple measures asepsis is secured and the physician is saved the time and trouble of attempts at disinfecting the hand by means which often appear to the patient to be needlessly complicated. The finger-cot can be laid aside in a disinfecting solution until the next examination, but each time a fresh piece of gauze should be used. All necessary information can be gained through this thin rubber. For rectal examinations or the digital examination of any unwholesome cavity, the rubber-cot ought to appeal to every surgeon who cares for cleanly hands.

Fatal Umbilical Hemorrhage.—COFFART (*Jour. des Sciences Médicales*, August 26, 1899) reports a case of fatal umbilical hemorrhage occurring in a child ten days old. The physician in charge of the case ligated the cord as usual and wrapped it in linen soaked with oil. It came away spontaneously on the sixth day. On the ninth day the skin showed evidence of jaundice. The following night when lifting her baby to the breast the mother discovered that its clothing was soaked with blood. The umbilicus was still bleeding and the hemorrhage could not be stopped. The physician was sent for and found the blood slowly oozing from the umbilical stump. Digital compression, cauterization with nitrate of silver and dusting with antipyrin failed to stop the hemorrhage. It ceased, however, after the application of cotton soaked in a ten per cent. solution of antipyrin. Two hours later it recurred and in spite of attempts to stop it the child died at midday. The author attempts to trace the relation between icterus and the fatal hemorrhage. In his opinion, the icterus was of an infectious character and the unprotected stump of the cord was presumably the point of entrance. The impoverishment of the blood and the diminution of the globules produced by the icterus predisposed to the fatal hemorrhage.

Abscess of the Brain.—SIMS (*Va. Med. Semi-Monthly*, September 8, 1899) mentions a case of brain abscess occurring under peculiar circumstances. A captain in the United States Army suffered with symptoms of nervous prostration which became so bad that he was given a year's leave of absence. At the end of that time he returned to duty much improved in health, but still excitable, easily fatigued, complaining of indigestion, constipation, and myalgic pains. After a long trip in a rough vehicle, he suffered for several days with headache followed by neuralgic pains in the left side of the head. Various remedies failed to relieve this but it was temporarily helped by hypodermic injection of morphin. The symptoms grew worse so that in ten days vision was partially lost and delirium set in, and on the fifteenth day the patient died. The autopsy revealed the presence in the left frontal lobe of an old abscess the size of a hen's egg, with thickened walls and inspissated pus. It was entirely in the central portion of the brain, not affecting the cortex at any point. There was a recent rupture of the abscess downward and backward through the basal ganglian and into the medulla. Apparently the original abscess had existed for two years, becoming encapsulated after the prolonged rest in hospitals.

Monobromid of Camphor in the Treatment of Epilepsy.—HASLE (*La. Gaz. Hebdom.*, September 3, 1899) recom-

mends strongly the use of the monobromid of camphor in the treatment of epilepsy. On account of its odor and taste it may be given in pills or hypodermatically. The following solution may be used for that purpose:

℞ Camphor monobromid . . gr. xxx
Alcohol . . . . 3 iv *m.* x
Glycerin . . . . 3 iii *m.* x.

As a large number of injections will be necessary if this solution is used, it is perhaps best to give the drug in capsules. The dose may be increased, if necessary, up to a dram. It has been found useful in hysterical forms of insanity and in different forms of hysteria as well as in epilepsy. It will prevent nightmare. If persisted in it will cause attacks of epilepsy to disappear, but its use should be continued several days after the disappearance of the symptoms.

THERAPEUTIC NOTES.

Belladonna in the Bronchopneumonias of Children.—HODGHEAD (*Pediatrics*, September 1, 1899) cites some striking instances in which bronchopneumonia in a child was quickly overcome by the administration of drop doses of the tincture of belladonna given every hour. Encouraged by the success which followed this treatment in the first case, the writer adopted it in twenty-five others in his own practice and it was also carried out in five cases in the practice of other physicians. The belladonna was in every instance preceded by small doses of calomel until the bowels moved freely. Twenty-eight of the thirty patients thus treated recovered. The action of the belladonna in small doses is a mildly narcotic one that increases the comfort of the child. It raises the arterial tension and stimulates the cardiac sympathetic, thus acting as a heart tonic. It is also a respiratory stimulant. It dilates the superficial capillaries and relieves the congested lungs; but by far its most important influence is to diminish the secretion of the bronchial tubes and thus to evert the threatened asphyxia. To attain the required effect it has to be administered in quite large doses every hour or two. Children are not very susceptible to the drug and infants a few months old may take with safety as much as a child of six. By administering the drug in frequent doses it can be withdrawn if any unpleasant symptoms arise, although in no one of the thirty patients treated did any dangerous complication appear.

Treatment of Chronic Gastric Catarrh.—EINHORN ("Twentieth Century Practice," vol. viii) says that, in the first place, the diet should be regulated in accordance with the severity of the symptoms. Four meals a day, for the most part of liquid or semisolid food, should be taken. After a week or two of this regimen the diet should be changed, and made to correspond as nearly as possible to that ordinarily taken. Vegetables should be eaten in large quantities, but meats should be somewhat limited. Meat that is very fresh, or that of tough fiber, such as pork, and such articles as sausages, lobster, salmon, chicken salad, mayonnaise, cucumbers, pickles, cabbage, and strong alcoholic drinks should be strictly avoided. The patient should eat slowly, masticate well, should not think of business during meals, and should stop eating before a sensation of satiety appears. He should lead a rational hygienic life, his hours of business should not be too long, and he should take plenty of exercise, though avoiding overexertion. Upon rising in the morning he should take a cold sponge-bath, and follow it with a brisk rubbing with a coarse towel.

Lavage may be necessary, especially in the mucous form of the disease. This should be carried out every other morning for two or three weeks, the patient being in a fasting condition. Lukewarm water with the addition of a little common salt should be used. Electricity and the use of mineral waters may be necessary to bring about a cure. Drugs are not relied upon to nearly as great an extent now as formerly. If the gastric juice is deficient in hydrochloric acid 6 to 12 drops of the dilute acid in half a pint of water should be taken in three parts at fifteen-minute or half-hour intervals three times a day after meals. Pepsin is absolutely inefficient. Artificial aids to digestion are not necessary, and if given are frequently injurious. Fluid extract of quassia, columbo, or condurango, 20 drops, or tincture of nux vomica, 10 drops, in half a wineglassful of water may be given before meals with advantage in many cases.

The Treatment of Epistaxis.—RAUGE (*Rev. de Therap.*, July 15, 1899) says that every epistaxis is a surgical hemorrhage demanding surgical treatment. The first indication is to look for its source. The ala of that side of the nose from which the blood comes should be lifted sharply upward, while the septum is bent in an opposite direction. This maneuver often suffices to disclose the bleeding-point, which is usually situated about an inch from the tip of the nose. A speculum is not needed, and is often in the way. Sometimes the exact bleeding-point cannot be seen, but pressure upon the area from which the blood comes, made with the finger or with a clamp covered with a little gauze, will stop the hemorrhage Should the blood come from a deeper portion of the nose it is necessary to apply tampons. They should be introduced through a nasal speculum. Small bits of absorbent cotton are packed in one after another. It is important that they should be very small. The cotton may either be used plain or saturated with some astringent or with peroxid of hydrogen. Before resorting to tampons it is well to try the effect of a very warm injection, 40° to 45° C. (104° to 113° F.°). In a few cases it may be necessary to pack the posterior nares. Tampons should not be left in more than twenty-four hours. At the end of this time they should be removed, and the nasal cavity disinfected. If necessary, tampons may be reintroduced.

For Punctate Acne.—

℞ Ichthyol
Bismuthi subnitrat. } aa. . . . 3 i
Hydrarg. ammoniat.
Vaselini . . . . . 3 x.

M. Ft. Unguentum. Sig. External use.—*v. Hebra.*

The Medical News.

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SATURDAY, DECEMBER 2, 1899.

THE PRESENT STATUS OF HYDROTHERAPY.

Some recent contributions to hydrotherapy by physicians of merited eminence direct attention to the ancient therapeutic method, which appears to have taken a new lease of life, if we may judge from its warm espousal by men who are not specialists in that branch of therapeutics. In the *American Journal of Insanity* (No. 4, 1899) Dr. Foster, physician to the Goverment Hospital for the Insane, writes: "Hydrotherapy to-day rests upon the same basis of physiologic investigation and clinical study as is involved in determining the scientific application of any therapeutic agency. Those who lead the thought and practice of the profession are practically unanimous in this favorable attitude towards it."

In a recent essay on hydrotherapy Professor Putman of Harvard University discusses its "scientific basis," and says that he "can corroborate from his own experience the favorable statements made by others regarding its results in chronic affections characterized by debility, anemia, and in the neurasthenic states." In the discussion of this essay Dr. Rogers said that, having used water in the treatment of disease for twenty-five years, he ranked it with opium, cinchona, iron, and alcohol; he felt sure that by the aid of hydrotherapy he had seen cures or improvements in cases not successfully treated by others or by himself with drugs and hygienic measures. It is almost time that the Medical profession awoke to the fact that hydrotherapy has at last established itself on a sound scientific basis." Among recent utterances by foreign clinicians we may quote Kussmaul, who insists that "the treatment by water has passed its childhood days. It has won for itself a steadily growing confidence as a remedial agent."

The laudations of hydrotherapy by some of its advocates have at times justly created doubt and distrust, and its adoption as a universal panacea by the hydropaths has estranged conservative physicians. Moreover, there existed no scientific basis for hydrotherapy before Winternitz. To prevent this remedial agent from again lapsing into disuse it would seem necessary that the principle and method of its application be made a distinct part of the college course. As water differs from all other remedies now taught in the lectures on therapeutics, it requires special apparatus for demonstration of its physiologic and therapeutic effects. In the discussion of Professor Putnam's essay Dr. Rogers said jocosely but truly that "medical colleges ought to cease to graduate men who don't know the difference between a Scotch douche and a hot Scotch," and Dr. Coggeshall insisted that "it is almost disgraceful that students should be allowed to graduate from our medical colleges with practically no systematic teaching in regard to non-medicinal therapeutics." Kussmaul writes: "Of hydrotherapy the young physician knows almost nothing. Here is a great gap in the education of our physicians; here is the real cause of his inability to cope with the empirics for the favor of the public. A revision of our course of study must be made above all things. A distinct chair and a clinical division are required in which appropriate cases may be treated by hydrotherapeutic procedure, but this professorship should not be connected with that on pharmacology." Professor Vierordt feels warranted in "the recommendation that facilities for ambulant hydriatric treatment should be connected with every medical polyclinic for the benefit of patients and stu-

dents alike." Professor Credé of Leipzig, claims that "if physicians were better versed in these branches, the field of operation of many quacks would be greatly curtailed." Hence, Dr. Foster says truly: "it requires only a very ordinary everyday seer to foretell that hydrotherapy must very soon be introduced into our leading schools of medicine as a regular branch of our curricula. This will result both from the growing sense of its value, and because it should be as largely as possible in the hands of the general practitioner and not exclusively with the specialist."

This brings us to another cause of failure of acceptance of hydrotherapy by the profession, *viz.*, its active adoption by laymen in recent years. This is but a repetition of history. "Father Kneipp" followed the methods of Pater Bernardo who preceded him more than a century; and the peasant Priessnitz, who preceded Kneipp a half century, advocated the methods of the parson Hancock who wrote on water as "febrifugum magnum" in 1723. To day the "Naturarzt" represents these empirics. His ranks are recruited from among clerks, merchants, teachers and students who, having failed in their chosen calling, become masseurs or bath-nurses, and graduate into "Nature-doctors" when they have the means to open an institution and advertise themselves. Thus far this class of semi-doctors has not become a positive disturbing factor in this country. That their encroachment is not distant is evident from the fact that institutions of this kind already exist in New York, New Orleans, and perhaps elsewhere. These are "run" by bath nurses and masseurs whose specious promises inveigle some medical men into employing them. Until physicians become familiar with the prescriptions of the various hydriatric procedures, and until nurses are trained to fill such prescriptions, as druggists do in their branch, it would seem important that only institutions supervised by educated physicians be resorted to for hydrotherapy. Malpractice by bath-nurses who are unfamiliar with the principles of hydrotherapy has come under our observation. Their prescriptions are analogous to the counter-prescribing of druggists.

Professor Putnam justly deplores the fact that "there is no institution in Boston under the guidance of a physician to whom one may send patients with the confidence that they will be judiciously treated" In New York, Chicago and Philadelphia such institutions exist, and it is probable that the recently developed interest in hydrotherapy will lead to their establishment elsewhere. Thorough instruction in this subject in our medical colleges, and the management of institutions by educated physicians, will establish water as a remedial agent upon an enduring basis.

MOSQUITOES AND OTHERS.

We are accustomed to regard insect plagues from the purely perverse standpoint of our subjective inconvenience, tacitly believing that their own attitude is like that of the ubiquitous small boy, who

"Only does it to annoy,
Because he knows it teases"

But science is constantly revealing to man his state of dependence on the most trivial things. Some years ago it was discovered that sipping honey was not a mere butterfly pastime, but an economic factor in the world's food supply, and that without the intervention of myriads of different insects that transferred the pollen, many fruits, vegetables and crops would never mature. Now it is demonstrated that diseases are winged; or at least very many of them need the aid of a pair of wings, or a good pair of hoppers, to get from one person to another It is not only the malarial laden mosquito that serves as a transmitter of disease, but very many of the particular and private pests of man and domestic animals may be the bearers of contagion. In the light of this hint it is not surprising that the culmination of the ten plagues of Egypt was the entrance of the death angel in the land.

The simplest method of infection is allied to that by which insects fertilize flowers. Flies, not necessarily biting flies, but those of the scavenger order and the common house-fly, get their legs covered with the bacteria of cholera, typhoid and plague as they light and crawl on the sick or dying and the utensils used by them, and then immediately transfer the infectious matter by alighting on the food prepared for well persons.

The method of transmitting malaria and Texas cattle fever is a more complicated process. Here insects act not as mere conveyers but as intermediary hosts of the disease. The ingenious methods of experimenters are very interesting, and a combined spirit of martyrdom and love of the chase must have been

necessary to get at the evidence in the case of mosquitoes and ticks of Texas fever, to say nothing of the fleas that have been found to carry the plague from sick rats to human beings.

The subject is worth the critical and historical study which has been made of it by George T. Nuttall, M.D., Ph.D., and admirably presented in the last *Johns Hopkins Hospital Reports*. He has given a remarkably able résumé of the subject, showing that many other diseases such as anthrax, hog-erysipelas, chicken-cholera, yellow fever, tuberculosis, leprosy, Egyptian-ophthalmia and Florida "sore eye" are spread by the aid of vermin and flies. An immense amount of research work has been done along these lines, as may be seen from his extensive bibliography appended. The exact species and the habitat of the infecting vermin or insect have been determined, and the conditions of soil and climate have been studied with the result, that if the combination of mosquito netting and a kerosene-can will prevent malaria, it may be hoped that some equally simple and efficacious method may be found to stamp out various other plagues of cattle and of humanity.

ECHOES AND NEWS.

Plague Bacillus Found. — Dr. W. H. Park announces that the bacillus of the plague has been found in culture in both of the cases taken from the plague ship "J. W. Taylor."

Marine-Hospital Appointments.—On November 23d the President appointed Drs. Robert L. Wilson, Clarence W. Wille, Elmer R. Edson, and John W. Amosso to be assistant-surgeons in the United States Marine Hospital Service.

The American Hospital-ship "Maine."—Up to November 23d the fund for fitting out the "Maine" as a hospital-ship exceeded $90,000, exclusive of the receipts of the concert directed by Mrs. Brown-Potter. At the meeting of the executive committee of the fund on the above date three American surgeons and five nurses presented themselves and were cordially received by Lady Randolph Churchill and her colleagues.

A Barber Law in Missouri.—All the other progressive States might well follow the example set by Missouri. She has passed a "barber law" which requires that a barber must pay $1 to a Board of Examiners for certifying to his competency, that solutions of carbolic acid shall be used in the disinfection of razors, that sterilized towels shall be used, and that in other ways cleanliness and sanitation shall be observed.

Smallpox in Kentucky.—Smallpox has broken out in several counties of Kentucky. According to the statement of Dr. J. H. McCormack, secretary of the State Board of Health, there are in Uniontown, whose population is 1800, five hundred victims in various stages of the disease. The authorities in this and other towns seem to have concealed a really serious state of things. Uniontown, the source of the epidemic, has at last been placed in absolute quarantine and the entire State is urged to enforce general vaccination.

Diphtheria in New Jersey.—There is an epidemic of diphtheria in Montclair which is, however, fast subsiding. Up to November 26th there were twenty-two cases in the town. Two public schools and the parochial school connected with the Church of the Immaculate Conception were ordered to be closed on November 27th. In Newark there have been 126 cases reported during November with 11 deaths. During the same month of 1898 there were 140 cases. The disease is not confined to any portion of the city.

A Manila Hospital.— The Auxiliary Society of Trained Nurses has done excellent work in the Philippines. This Society must not be confused with that of the Red Cross. It is supported by wealthy New York citizens, and the nurses are not paid by the Government and are, indeed, not in the government employ at all, except as volunteers. There are twenty-seven nurses in charge of Miss Henschall, who was head nurse at one of the large military hospitals during the Spanish War. The Society supplements the work of the Hospital Corps.

Privileged Communications.—The *Lancet*, in commenting on privileged communications, observes that in a recent French case at Besançon, the Court declared that neither the consent of the patient's heirs nor anything else could free a medical man from the obligation to keep secret the disease for which he had treated the patient. This is of the same tenor as the law in this country. In England, on the other hand, physicians and surgeons may be compelled to disclose communications made to them by their patients in professional confidence.

Faith-Healers Outwitted —S. P. Linberger, a Christian Scientist, died at Wooster, Ohio, on November 23d. He had refused medical aid. After his death it was discovered that his son was sick with typhoid fever, and that the other members of the family would not permit a physician to be called. The young man's associates called the attention of the Probate Court to the case, and Judge McClarran promptly appointed a guardian for the young man, with instruction to procure at once a physician and a competent nurse, and to see that the medicine prescribed was administered.

Medical Students Suspended.—The entire senior class of the Medical School of Boston University was suspended from all recitations and lectures by the Faculty on November 25th. The cause was the boisterous conduct of

the class on two occasions when they were on their way to attend clinics at the Westborough Hospital for the Insane. This conduct was reported to the hospital authorities, who made complaint to the school, charging the class with insubordination, and refusing to allow them to continue their clinical work at the hospital. Dr. J. B. Sutherland, Dean of the school requested an apology, which was refused. The suspension of the students followed.

Progress of the Plague.—According to latest reports of the Marine Hospital Service 25 cases of plague have been reported from Santos, Brazil, with 10 deaths. On October 14th the mail steamer "Peninsular" disembarked at Plymouth a colored fireman who had been taken ill on October 9th with plague en route, also the sick man's attendant. Both were placed under sanitary police surveillance on the hospital ship "Pique" lying off Plymouth. The mail steamer left Plymouth for London. According to last advices no further cases had developed on board. From November 4th to November 11th, 11 fresh cases and 7 deaths were reported from Oporto, making a total of 236 cases and 81 deaths. The suspected cases of Delagoa Bay have been confirmed. This is of importance since through this port most of the present traffic to the Transvaal is passing and the danger of plague complicating the South-African War is not very remote.

Deaths of Dr. Prentiss and Dr. McMurtrie — Dr. D. Webster Prentiss, a lifelong resident of Washington, D. C., and a well-known physician and naturalist, died in that city on November 20th, aged fifty-six years. He was a member of many medical societies. He wrote much on medical subjects, and he was the author of a valuable work on the song and game birds of Maryland and the District of Columbia. During the Civil War he served as a surgeon in the Union Army. Dr. Daniel McMurtrie Medical Director in the Navy, retired, died in Washington, on November 21st. He had been in ill health for nearly a year, but was able to attend to his duties in the Navy up to the time of his regular retirement several months ago. He was sixty-three years old. He was graduated from the medical department of the University of Pennsylvania and he entered the United States service in 1861. He served in many important naval engagements. Several years ago he was Fleet Surgeon on the Asiatic station.

Sugar Diet for Troops.—Germany has completed elaborate experiments with sugar as a food for troops. The object was to test the advantages of a sugar diet in cases where great exertions were to be made within a brief period of time. According to the reports of experiments in various army corps a favorable result has been secured. It is considered proven that a sugar diet increases muscular power in a comparatively short time, considerably shorter than does egg-albumen. The effect of the latter, however, is more lasting, though sugar has the advantage of being much cheaper. The great rapidity of sugar absorption explains its rapid effect on the nervous system, which is a matter of great importance in all cases where speedy recuperation is desired, as in long-distance marching. Artificial substitutes for sugar, such as saccharin, have not the same effect. These experiments were conducted by Professor Pfuhl, head of the Physiological Laboratory of the Army Department, and Professors Senator and Muck of Berlin University. Possibly these findings may induce General Sternberg to modify the ration of our troops in the Philippines, which, according to Dr. Seaman, is the same as that supplied our troops in Alaska.

The Organization of the Acting Assistant-Surgeons of the United States Army.—A mass-meeting of the Acting Assistant-Surgeons of the United States Army during the Spanish War will be held at the armory of the Seventh Regiment, N. Y. N. G., Lexington avenue, New York City, on Tuesday, December 5, 1899, at 2 o'clock, P.M., for the purpose of organization, and to secure legislation by Congress doing justice to them and their interests, as follows: "(*a*) To give each the assimilated rank, pay, and emolument of a first lieutenant (staff) upon and for the date of muster-out, thus legally fixing his *status* as an *officer* of the army. (*b*) To give to each, comformably to the admitted verbal agreement and intentions of the Surgeon-General's Office, full payment for properly granted leaves of absence. (*c*) To give to each the commutation of quarters (when government quarters were not found) which was originally both stipulated and allowed, but afterward cut off. (*d*) To give to each the mileage and travel pay originally promised and enjoyed, but later by unjust discrimination disallowed and retracted. (*e*) To give to each the same rights and eligibility to pensions and to land and other emoluments that attach to assistant-surgeons of the United States regular or volunteer army. (*f*) To give to each the same allowance of extra pay that was given to officers and men of the United States volunteers in the late war, *viz.*, one month's extra pay for service in the United States and two months for service beyond seas. (*g*) To give to each preference for appointment (over those who have not had previous service) in the Medical Corps of the Army and Navy, and the Marine Hospital Corps of the United States, etc." It is truthfully claimed that the burden of the medical and surgical work of the Spanish War was borne by the nearly 1000 acting assistant-surgeons of the army, who were usually competent, devoted, and brave, dealing often and successfully with new forms of disease and great sanitary problems. They sometimes died on the firing line, but more often of disease, being always and everywhere exposed, overworked, and ill-fed. Theirs was only the shadow of rank and authority, and, though poorly paid, they were later deprived of part of their stipulated compensation by the narrow rulings of Treasury officials. No one can honestly question that they have deserved well of the country and are clearly entitled to the benefit of the contracts made with them, to honorable recognition, and the same consideration in every respect given to those of like position in the staff corps of volunteers and regulars, whose full duty and responsibility they ably performed.

MEDICAL MATTERS IN NEW YORK.

DEATH OF DR. WALLACH—SOFT COAL A NUISANCE—FOR BETTER TENEMENTS—HOME FOR CONSUMPTIVES—WOMAN'S HOSPITAL WORK—TAKEN TO MANY HOSPITALS—AMBULANCE DELAYED THROUGH MISTAKE BY POLICE—DR. DOTY'S RETURN—MISSIONARY WORK DONE BY THE NEW YORK COUNTY MEDICAL SOCIETY.

DR. JOSEPH G. WALLACH died in this city on November 21st after a long illness. He was forty-four years of age and a graduate of Bellevue. Dr. Wallach was a Director of the Educational Alliance of this city and a member of the New York County Medical Association.

The Appellate Division of the Supreme Court, Kings County, has affirmed the judgment of the County Court in a suit brought to recover damages from the Nassau Electric Railway Company for using soft coal, in contravention of the laws of 1895, which proscribes its use within certain city limits. It was held that it is well within the police power of the State for the Legislature to declare that the burning of soft coal within certain prescribed limits of the city is detrimental to the public welfare, and should be prohibited under authorities cited.

One of the features of the tenement-house exhibition to be held in this and in various other cities in January next will be a competition by architects for plans of model tenements. It is hoped thus to stimulate the interest of architects in the planning of houses for low wage-earners, and to show that such buildings erected with the object of obtaining a maximum of light and air can be made to pay the owners. Prizes will be offered, ranging from $500 down to $100, for the best plans. All plans submitted must provide for plenty of air, and there must be no damp, narrow courts. Prize plans will be exhibited at the Paris Exposition in 1900. The jury of award of prizes is composed of W. Bayard Cutting, I. N. Phelps Stokes, W. R. Mead, Miss Lillian Duald, John D. Crimmins, E. R. L. Gould, and Mrs. Roland C. Lincoln.

The Board of Directors of the Montefiore Home will erect a new sanatorium for poor consumptives at Bedford Station, in Westchester County, N. Y. The new building will cost $150,000, and will be devoted to the treatment of indigent consumptives. It will contain all modern and scientific improvements. The site selected is 410 feet above sea-level, overlooking the hills of Bedford.

The forty-fourth anniversary of the Woman's Hospital at Fiftieth street and Lexington Avenue was observed on November 23rd. Many well-known gentlewomen were present. Drs. Joseph D. Bryant, Henry D. Nicoll, Clement Cleveland, Horace Tracy Hanks, and John Duncan Emmet were among the representatives of the medical staff. According to the annual report of John E. Parsons, Esq., the President of the Board of Governors, the total number of patients treated in the indoor department was 863, of whom 267 were free patients. It is expected that a new hospital, costing four hundred thousand dollars, will be built.

The hospital system which makes the following occurrences possible should certainly be changed: Bridget Murphy on November 13th fell through the trap-door on the roof of her house to the floor below, fracturing her skull. She was taken to the J. Hood Wright Memorial Hospital, where she was kept for two days. Then she was hurriedly transferred to Harlem Hospital, whence she was again transferred to Bellevue and finally to the City Hospital where she died. The autopsy of Dr. Weston, Coroner's physician, revealed meningitis and a fracture at the base of the skull. Dr. Weston volunteered the opinion that the patient would not have died from her injuries had she not been removed so often. John Cunningham, 70 years old was struck by an electric-car and was taken to Harlem Hospital on November 20th. Later he was transferred to Bellevue. The Bellevue authorities wished to retransfer him to the City Hospital, but his family called at the hospital and protested. They took him home in a cab, and he died soon after.

Whenever the ambulance system in this city is not found quite perfect, it is the surgeons who are invariably held blameworthy. In the following instance the police were clearly at fault: The Harlem Hospital was notified at 7 A. M. to hurry an ambulance to 543 East 143d street to attend a woman who had jumped from a third story window. Ambulance Surgeon Muller went at once to that address but found no patient. On his way back to the hospital he passed the East 138th Street Police station where he learned that the injured woman was at 543 East 134th street. He went at once to the place, and found the patient, who died soon after he reached her. The mistake caused an hour's delay. Had he been given the correct address at first it is very possible he may have saved the woman's life.

Health Officer Alvah H. Doty arrived home on November 25th. During his seven weeks absence he observed the methods in operation in Europe for the inspection and transportation of intending immigrants to this port. Dr. Doty gave unqualified approval to his deputies, Drs. Sanborn and L'Hommedieu, for their management of the plague cases at quarantine.

Dr. Doty, while in Europe, visited German ports, and went also to St. Petersburg, Moscow, Warsaw, Rotterdam, and other ports of embarkation in the low countries. Concerning Russian immigrants Dr. Doty found that they came from densely settled communities, and that they are subject to close supervision. No person can leave his home to go to another locality without a passport. If any epidemic breaks out in small villages a cordon of Cossacks is put on guard, the town is burned, and the inhabitants are provided with new clothes. All Russian inspections are thorough.

On the German frontier are six points of inspection to which the railways bring the immigrants, who are put into barracks and subjected to the inspection of a medical officer. At these points all those who fail to come up to the standard required by the United States immigration laws are sent back. Each of these inspection stations are provided with disinfection plants, detention barracks, and have medical examiners in attendance

About six miles outside of Berlin is a place to which those from the six frontier stations are sent. This is called a control station and is maintained at the expense of the steamship companies which are banded together to maintain an inspection service to prevent the embarkation of undesirable persons. From the control station the immigrants are sent to the point of embarkation, where another rigid inspection is made. At this inspection there is a United States consular officer always present. Dr. Doty received every courtesy from the officials he met, and special offers were made him to inspect stations, hospitals, laboratories, etc. He was astonished, he said, at the excellent systems prevailing generally.

The following summary of work accomplished by the Medical Society of the County of New York, through its Council, in suppressing illegal practice in this city, speaks for itself: During the year ending October 1, 1899, there were 45 new prosecutions, 33 convictions, 17 cases otherwise disposed of, and 11 left pending. In fines $2425 were imposed and $2075 collected. The total expense amounted to $2867.40.

MEDICAL MATTERS IN PHILADELPHIA.

[From Our Special Correspondent.]

SECTION ON OPHTHALMOLOGY, COLLEGE OF PHYSICIANS OF PHILADELPHIA—PHILADELPHIA COUNTY MEDICAL SOCIETY—$5000 APPROPRIATED TO STAMP OUT SMALLPOX—SALARIED SCHOOL INSPECTORS—THE MEDICAL AND PHYSICAL CAUSES FOR NON-ATTENDANCE IN THE PUBLIC SCHOOLS—STUDENT GOVERNMENT AT JEFFERSON—ST. MARY'S HOSPITAL—DR. SIMON FLEXNER—DR. S. WEIR MITCHELL—HEALTH REPORT FOR THE CURRENT WEEK.

PHILADELPHIA, November 27, 1899.

DR. G. E. DE SCHWEINITZ reported a case of "Gumma of the Iris and Ciliary Body, with a Histological Study of the Enucleated Eyeball," at the last meeting of the Section on Ophthalmology of the College of Physicians of Philadelphia, held November 21st. The patient was a woman of forty-eight years, who had been treated for secondary syphilis at the Philadelphia Hospital, from which institution she had been discharged after the disappearance of the symptoms. In May, 1898, she was again admitted, having complained for three weeks of an acute inflammation of one eye. Iritis was pronounced; there was a yellowish-white new growth on the upper part of the iris, and the lower part of the eye contained a mass of broken-down whitish material. The patient was placed on protoiodid of mercury, mercurial inunctions, and large doses of potassium iodid, under which treatment the broken-down granulomatous material disappeared from the lower part of the eye; the condition of the eye, however, was such that enucleation was indicated, which operation was done on June 27th. It was ascertained that a gumma sprang from the anterior part of the ciliary body and involved the iris. The cornea was normal, except where it overlaid the gumma. The half of the iris not included was infiltrated with round cells, being attached by total synechia to the capsule of the lens, which was also infiltrated with gummatous tissue. The retina was approximately normal.

At the same meeting Dr. Burton K. Chance presented by invitation a communication on the "Clinical Study of Twenty-two Cases of Epidemic Cerebrospinal Meningitis, with Especial Reference to the Ocular Symptoms." The cases observed were among the 37 treated at the Municipal Hospital during the epidemic of cerebrospinal meningitis in this city last January. The majority of the cases were first seen during the second and third week of the disease, some of the patients were stuporous, others exceedingly irritable, and still others were found in strong opisthotonos, all of these complications rendered ophthalmoscopic examination very difficult. Among the subjective symptoms the most conspicuous were photophobia, burning pain in the eyelids, and in one case unilateral ptosis. Visual tests showed varying conditions—2/100, 2/60, 9/50, and so forth. There was internal squint in two cases, and marked choked disc in one. In many cases congestion of the optic disc and retina was observed. No hemorrhages were noted, but in some cases the lymph-sheaths around many of the vessels were distended. There were 15 deaths among the whole number of cases treated at the hospital, and 8 from the series reported by Dr. Chance. No post-mortems were made. Among the fatal cases was the patient with choked disc. Owing to the fact that none of the patients who recovered reported subsequently for examination, the permanent effect of the disease could not be studied. In a single case seen at the Will's Eye Hospital, the patient had double choked disc, and gave a history of an attack of cerebrospinal meningitis during the same epidemic in this city.

At the last meeting of the Philadelphia County Medical Society, held November 22d, two interesting papers were read on the topic of skiascopy in pulmonary diseases, by Dr. Wm. S. Newcomet, and by Dr. T. Mellor Tyson. Dr. Newcomet's paper, on "The Use of X rays in the Study of the Lung," demonstrated the value of the Roentgen-rays as a means of verifying conclusions reached by other clinical methods, but also showed that the method by no means sets aside the older and more dependable methods of diagnosis. As a contradiction of the belief held by some that dense structures alone are visible with the X-rays, Dr. Newcomet showed a radiograph of a handkerchief in which the folds and creases were visible. Contrast is needed in this work, and a weak light may give a shadow where a strong light would penetrate, showing nothing. Where dulness on percussion is obtained over the chest the underlying consolidation may be seen with the fluoroscope. Cavities are recognized in the fluoroscopic image as circular spots with a bright center, and a surrounding darker zone. Old pleuritic thickening over an area of consolidation shows as an intense blurring darkening.

Dr. Tyson, in a paper on "The Practical Use of the Fluoroscope and Radiograph in Lung Diseases," expressed the conviction that the use of these aids in diagnosis was a great help in arriving at early diagnosis in diseases of the lungs, the fluoroscope being especially

useful in most instances. It should be used in all cases where there is the least doubt regarding the diagnosis and where cavities are present its intelligent application will in many cases give a better idea of the extent of the cavity than can be obtained by any other method known to clinical medicine. A number of cases was detailed to show the ease and certainity with which the skiagraph and fluoroscope located areas of consolidation and cavities, the presence of which had been later demonstrated by other methods of physical examination.

A special appropriation of $5,000 has just been passed by the State Legislature to be devoted to stamping-out the smallpox outbreaks in different parts of this State. It is confidently expected that Governor Stone will sign the bill at any early date, so that the money may at once become available.

A resolution has been adopted by the Board of Education urging Councils to appropriate the sum of $45,000 for the purpose of making possible a daily inspection of the public schools, by of special corps of physicians, each of whom will receive a salary of $300 per year. The subject is also being taken up by the County Medical Society, and the following committee from this body has been appointed to confer with the authorities on the matter: Drs. J. Madison Taylor, W. W. Keen, Wm. Campbell Posey, H. F. Anders, S. D. Risley, L. S. Somers, Lawrence Flick, and Dr. Thos. B. Fenton.

Statistics just made public regarding the physical and mental causes for non-attendance at the public schools of minors between the ages of 8 and 16 years show the following etiological factors among the 9985 children included in the census: Mentally incapable, 111; blind, 37; deaf and dumb, 45 otherwise physically unable to attend, 664. The non-attendance of the other children is accounted for by other causes not relating to their physical and mental conditions.

The Faculty of the Jefferson Medical College has inaugurated a system of student-rule at this institution, similar to that prevailing at other institutions of learning, notably at Cornell, Princeton, and Columbia Universities. In compliance with the desires of the Faculty, a Student's Committee has been formed, composed of the four class-presidents, and 16 other members chosen to represent the different classes. To this committee the Faculty is to refer for adjustment all questions of disorderly conduct among the students, questions of damage to college property, and other infractions of the rules,

The management of St. Mary s Hospital has acquired property adjoining the present hospital building, upon which it is proposed to erect next spring a large addition to this institution. The present hospital contains about 100 beds, but the proposed extension will provide accommodations for double this number of patients, besides admitting other needed improvements.

Dr. Simon Flexner has been installed as the new patron of the John Guiteras Medical Society of the University of Pennsylvania as the successor of Dr. Guiteras whose chair Dr. Flexner occupies.

Dr. S. Weir Mitchell delivered during the past week two lectures on "The Conduct of Life" before the upper classes of the Girls' High School.

The total number of deaths in this city for the week ending November 25th was 386, being an increase of 21 over the number reported last week, and a decrease of 63 from those of the corresponding week last year. Returns of contagious disease were made as follows: Enteric fever, 43 cases, 4 deaths; scarlet fever, 72 cases, 4 deaths; and diphtheria, 127 cases, 24 deaths.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

ANNUAL REPORT OF EVANSTON HOSPITAL—VIOLATORS OF MEDICAL PRACTICE ACT—VITAL STATISTICS—REPORT ON CHILD STUDY—CHICAGO PHYSIOLOGICAL SCHOOL FOR NERVOUS AND DELICATE CHILDREN — MEASLES AND WHOOPING-COUGH ADDED TO CATEGORY OF CONTAGIOUS DISEASES —WORK OF ILLINOIS SOCIETY FOR THE PREVENTION OF CONSUMPTION—CHICAGO MEDICAL SOCIETY—VESICO-RECTAL ANASTOMOSIS.

CHICAGO, November 27, 1899.

THE eighth annual report of the Board of Directors of the Evanston Hospital has been issued. It is the first report that has been issued since the occupancy of the new building by the hospital, and reviews the work of the first complete year in the new quarters. The various reports of the officials show that the hospital is in a flourishing condition, and many plans are in mind for the enlargement of the scope of the work for the future. The attendance at the monthly meetings has shown a higher average than any previous year. A total of 2224 calls were made during the twelve months on 298 patients. The money and donations that have been so freely given have been well placed, and the directors hope that in the future it will be possible to place more nurses on infectious cases, and to have a nurse to carry on the work during the vacation months.

The attorney for the State Board of Health, Mr. Barnes, finds it extremely difficult to convict violators of the Medical Practice Act. He declares that such violations are numerous, that one cannot take a street-car ride without observing their signs on either hand. Juries are slow to find verdicts of guilty even where the evidence is conclusive. Every encouragement should be given the prosecutor for the State Board of Health both in his treatment of unsanitary lodging-houses and in his handling of medical montebanks. On the other hand, his procedure in every case should be so well defined and aggressive that there would be no room for doubt on the part of the offender that the prosecution was sincere, and that one conviction, if the violation did not cease, would be speedily followed by another, with the added penalty for a second offence.

Little change in public-health conditions is noted in the weekly bulletin of the Health Department issued on the 20th. There were 451 deaths recorded last week from all causes, but the excess of 11 over the previous week is due to the return of belated coroner's certificates, 5 being the victims of the New England mills explosion. Little

abatement of the diphtheria and scarlet-fever mortality is shown. Deaths from diphtheria were 24, the same as the previous week, and 9 more than in 1898, and while there were 2 deaths fewer from scarlet fever last week than the previous week, there were 12 in excess of the corresponding week last year. The *Bulletin* says: "It is to be feared that the stationary mortality-rate from these diseases does not indicate the culmination of the epidemic, but is due rather to the unusually mild weather, which favors ventilation by allowing doors and windows to be kept open. Inquiry among physicians shows that there is no diminution in the number of new cases, and there is reason to fear that when the weather turns cold the death-rate will increase."

Dr. W. S. Christopher and the members of the Committee on Child study will have another report to present next month. Examinations are being conducted and much valuable information is being obtained. The improvements and innovations suggested by this committee for the better sanitary arrangements of the schools will be given due consideration by the Board of Education. The plan of Dr. Christopher for medical inspection in the schools has been amended to conform with an opinion from Attorney McMahon. The Board has no authority to exclude children from the schools except in cases of emergency. The amendments, as offered by Dr. Christopher, restricted the resolution to cover cases of emergency, when the pupil may be debarred from school, the former reading being that the pupil having been absent four days should be detained twenty-four hours pending examination. The emergency provision was held to be in force at present on Dr. Christopher's statement that diphtheria has crossed the line of epidemic. The medical inspectors will number fifty, and will receive $50 a month for the time they are on duty.

Part of the training work of the Chicago Physiological School for Nervous and Delicate Children will be to fit nurses for duty with this class of children. This new departure has been taken up at the suggestion of Dr. Nicholas Senn.

Measles and whooping-cough have been added by the Health Department to the category of contagious diseases which must be reported by attending physicians.

The formation last summer of the Illinois Society for the Prevention of Consumption is to be followed this winter by an active campaign seeking legislative aid for the care and cure of consumptives. The organization by the City Council of a special milk-inspection department, which shall prohibit the sale of milk not previously certified as non-tuberculous, will be urged, and the State will be asked to erect a State sanatorium for consumptives. The State Board of Health will recommend the building of the sanatorium. Pamphlets explaining the dangers of the various forms of tuberculosis will be distributed, in order to educate the public regarding the spread of the disease, first among cattle, and subsequently among people. The officials of the Society believe that with the assistance of Mayor Harrison, Health Commissioner Reynolds, and Governor Tanner they will be able to pass legislative measures without difficulty. Following the establishment of the sanatorium, legislation will be asked for providing for the compulsory isolation of consumptives in virulent stages. It is a question whether consumption is spread more by consumptive cattle or by persons. It is believed the sale of milk from untested cattle is doing much to spread consumption. The idea of instituting a city inspection has been talked of by Dr. Reynolds and is favored by veterinarians. Dr. William A. Evans, a member of the Tuberculosis Committee of the American Medical Association, its preparing a report on the prevalence of tuberculosis in all parts of the world. The report probably will lead to making national in scope the movement for legislation for the eradication of consumption. It is believed that before long Congress will be asked to recognize the danger of the spread of consumption in this country, and to establish a national sanatorium.

At a meeting of the Chicago Medical Society, held November 22d, Dr. Jacob Frank demonstrated vesicorectal anastomosis, a new operation for exstrophy of the bladder, upon a live dog. This operation consists in anastomosing the bladder to the rectum by means of the Frank decalcified bone-coupler. The ureteral openings in the bladder are not anatomically interfered with, hence a fortification against ascending infection. Dr. M. Herzog made the pathological and bacteriological examinations, and the results were far more satisfactory than those of ureteral implantation, in which kidney infection resulted in every case. The conclusions drawn were: First, that the recovery of the dog and the macroscopical appearance of the tissue do not necessarily signify absence of infection; second, in dogs killed thus far the operation of vesicorectal anastomosis can be performed without a resulting kidney infection. At the same meeting Dr. Herzog also made a post-mortem examination of a dog operated on twenty-four weeks ago, and showed the condition of the urinary tract, which was very satisfactory.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

REPEAL OF THE DOG-MUZZLING ORDINANCE—CASE OF "THIRD-GENERATION" SYPHILIS—ARTIFICIAL EYELASHES—HOSPITAL SHIP OF THE AMERICAN WOMEN IN LONDON—SCHOOL-MEALS FOR UNDERFED CHILDREN—55,000 STARVELINGS IN LONDON—ALLEGED INCREASE OF INSANITY IN IRELAND—GOVERNMENT CARE OF THE "INNOCENT"—POPULATION OF WORKHOUSE AND CRIMINAL ASYLUMS ALMOST STATIONARY.

LONDON, November 19, 1899.

MUCH joy is expressed in the dog-loving circles over the repeal of the muzzling ordinance in London but this does not seem to be echoed very cordially by the medical profession. The practical disappearance of hydrophobia for nearly a year past, on the strength of which the ordinance was rescinded, was in all probability largely due to the muzzling precautions themselves, and fear is expressed that the new departure may be followed by a marked in-

crease. One boon the ordinance has certainly conferred upon the community is the practical elimination not merely of the stray and ownerless dog, but of the cur of all degrees. Over 30,000 dogs were captured in the first five months of its operation and of these but 6000 were claimed by their owners.

A most rare and unusual case, which we believe is almost unique in surgical annals, was presented by Mr. Jonathan Hutchinson at his clinical demonstration at the "Polyclinic" this week. This was a syphilitic child born of and accompanied by a mother who herself presented unmistakable signs of inherited syphilis. As Mr. Hutchinson declared the nature of the disease in both mother and child to be absolutely unmistakable, there can be little question as to the certainty of the diagnosis, and as the mother by virtue of the hereditary infection would be immune to the disease, the probability would be that the infection came directly from the father. He unfortunately, however, was not present nor could, under the circumstances, any conclusive history of the occurrence of the disease in him be obtained, but the possibility of a transmission to the third generation is so extremely remote that Mr. Hutchinson is strongly of the opinion that this must have been the method of infection.

The possibilities of cosmetic surgery are only just beginning to be realized, according to our lay contemporaries. One of them has discovered another method of adding to the attractiveness of the human face by the insertion of what it terms "artificial eyelashes." These are manufactured by the delightfully simple process of passing a needle threaded with hair through the lid and out at its edge and then cutting off one end of the hair close to the skin, and the other at such distance from the edge of the lid as may be desired to make the eyelash. The journal, however, does not report or even supply photographs of any actual cases of this interesting embellishment; and in view of the fact that at least twenty or thirty such stitches would have to be taken to make even a decent imitation of a row of eyelashes and that the hair threads would cause intense irritation from the very start and be almost certain to result in a beautiful crop of styes within forty-eight hours, to say nothing of such a minor detail as the impossibility of getting the downward slope given by such a method of introduction converted into the beautiful upward curve that is required in an eyelash, we may be pardoned for exercising a good deal of healthy scepticism on the subject. We fully admit the truth of the old saw that "pride feels no pain," but we honestly doubt whether this painful procedure could ever be carried out with success. The journal in question cites an alleged *Médécine Française* as its authority for the statement.

The generous scheme of the American women in London to supply a hospital ship for South-African service is developing with genuine Transatlantic rapidity. One of the great steamship lines, the Atlantic Transport Company, has placed at their disposal a ship which by a double coincidence is curiously appropriate for the service, first, in that its name is "The Maine," and second, that it is the twin ship of the "Missouri" which was fitted out for the same purpose during our Cuban campaign. Offers of assistance come in from every hand. The well-known chemists, Burroughs & Welcome, have volunteered to provide the entire equipment of medical stores, and abundant contributions have been received from the members of the society and other Americans resident in London.

A gratifying proof of the growing influence which medical and hygienic opinions are coming to exercise in educational circles is afforded by the serious discussion of the London School Board of a proposition to make formal provision for providing school-meals, for underfed children under their instruction. It has long been vigorously urged by our profession, first, that the greatest care should be taken to see that no actual physical defects prevented school children from making use of the instruction offered to them, and, second, that their physiological condition as to supply of food and sleep must be carefully watched, in order that teaching, no matter how admirable, may be either grasped or retained by the pupils. In the terse and homely phrase of Luther they have insisted that "empty belly hath no ears." Formal provision for school-meals has been made in several of our American cities, and a voluntary association for the same purpose is already in existence in London with a number of similar local societies more or less under its control. But the urgent need of the whole scheme is that of bringing it under one central authority and providing some means of preventing imposition by non-deserving pupils upon this noble and admirable charity. The urgent necessity of such a movement can be seen in the report of the existing Society to the effect that no less than 55,000 children in London alone go to school so insufficiently fed as to be practically unable to profit to any reasonable extent by the instruction offered them. It is one of the most hopeful indications in the New Education that the physiological basis of brain work and the high value of expert medical advice in every department of the executive arrangements of the school are given a leading if not a foremost place. The day is rapidly approaching when a school physician will be regarded as indispensable as a school teacher.

The lay press is making much mournful capital out of the steady increase of lunacy in Ireland, as apparently demonstrated by the reports of the inspectors for the current year. These, upon the face of them show a gross increase of over 7000 registered lunatics in the past nineteen years, or nearly 60 per cent. This would give a steady increase of about 3 per cent per annum, which was almost the exact increase registered in the year 1898. In the mass these figures are undoubtedly alarming, but when we come to analyze them more carefully we see that a large percentage of this increase is simply another illustration of the general process which has been taking place in the spread of civilization, and the introduction of more humane and efficient methods of care for these unfortunates. It will be remembered that for a number of years the increase of insanity in England and Wales was a fruitful source of alarm to statisticians of a pessimistic turn of mind, but this is now generally recognized as having been simply

due to the steady and desirable process of bringing lunatics, who were formerly permitted to remain with their families or even to wander about the country as beggars and objects of charity, within the doors of appropriate asylums. This is supported by the fact that for nearly three years past the percentage of lunacy has remained almost stationary, indeed in some parts of England has begun to diminish. Ireland is of course, in most respects, anywhere from a generation to a century behind either England or Scotland in her social organization, and is now beginning to pass through the same stage which has already been surmounted by the sister countries. Another element which cuts an important figure in this connection should also be borne in mind, and that is, the singular and touching attitude assumed toward these unfortunate individuals by the bulk of the Irish peasantry. The lunatic is still looked upon as a "changeling" or individual bewitched by the gods or the fairies, and to a considerable degree under their special protection. Even his name has been softened down to the almost affectionate pseudonym of "*innocent*" and far from being an outcast from the community he is kindly treated and even a welcome guest. The blessing and the curse of an innocent are both regarded as peculiarly potent, and the latter is especially to be dreaded. Hence the recognition that the poor "natheral," or "object," is really the victim of disease, and as such ought to be confined in an appropriate hospital is extremely slow of acceptance by the Irishman.

The great bulk of the increase recorded is in the population of the great government asylums, into which these unfortunates are being steadily gathered. The population of work-house asylums, representing the acute cases has remained almost stationary, as also that of private establishments, while the number of the criminal insane has slightly diminished.

HEMORRHAGE IN CASES OF JAUNDICE.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—In the discussion on Richardson's paper reported in your issue of November 25th, no reference was made to the importance of taking the coagulation time of the blood in cases of chronic jaundice prior to operation. The tendency to bleeding in these cases is well known, and the capillary oozing, sometimes so serious after or at operation, is probably due to the marked impairment of the power of coagulation in some cases. We have found the coagulation time to be ten or twelve instead of the normal three or four minutes. Wright's tubes for taking the coagulation time are easily procured, or in their absence a good-sized blood-drop on a slide may be carefully watched.

W. OSLER, M.D.

JOHNS HOPKINS HOSPITAL,
BALTIMORE, November 28, 1899.

To Abort Acute Bronchitis.—

℞ Acetanilid, Salol, aa. . . . . gr. xxx

M. Div. in chart. No. xii. Sig. One powder every four hours.—*M. G. Price.*

TRANSACTIONS OF FOREIGN SOCIETIES.

French

ABSCESS OF LIVER AT AN EARLY AGE—RESUSCITATION BY TRACTIONS OF THE TONGUE AFTER APPARENT DEATH LASTING FOR HOURS—TUBERCULOSIS MADE RAPIDLY WORSE BY CHILDBIRTH—RADICAL CURE OF HERNIA WITHOUT BURIED SUTURES—FISH AS TRANSMITTERS OF TUBERCULOSIS—SOME RECENT ADVANCES IN SURGICAL METHODS—OSSEOUS TUMORS—RESECTION OF MORE THAN TEN FEET OF INTESTINE—SPLENECTOMY AND SPLENIC LIGATURE—OBJECTIONS TO IMMOBILIZATION OF TUBERCULAR JOINTS.

AT the Academy of Medicine, September 19th, CADET DE GASSICOURT gave the history of a patient who was operated on at the age of two years for abscess of the liver. The abscess was opened wide, and about a pint of inodorous pus escaped. The cavity was washed with a solution of boracic acid and drained. The washing was repeated daily and recovery was prompt and satisfactory.

At the session of October 3d LABORDE mentioned fourteen new cases of the restoration of persons apparently dead by long repeated tractions upon the tongue. In one-half of these instances, the tractions were kept up from twenty to sixty minutes. One patient was worked over in this manner for three hours before he could be brought back to life. The exact time during which a patient may remain apparently dead and then be resuscitated has never been determined, either by experiments upon animals or by the treatment of the living, but from the results here quoted it is evident that resuscitation is possible after a much longer interval than one might at first suppose. By the old methods, when asphyxia had lasted more than five or six minutes, respiration could not be re-established. By tractions upon the tongue, however, persons have been brought back to life who were thirty or even forty minutes under water.

At the session of October 17th DOLERIS mentioned three cases which support the popular belief that childbirth hastens tubercular processes in the mother. One woman who had chills and hemoptysis, gave birth to a non-tubercular child at the sixth month of pregnancy. The child died in six hours. From the following day the mother grew rapidly worse with cough and abundant expectoration, the sputa containing tubercle bacilli. In two weeks she was dead. The autopsy showed extensive and active lesions in both lungs and in the intestine; but there were no miliary tubercles, thus showing that there had been a lighting up of old lesions, but no general infection through the blood. That this may also occur, was shown by another case which also terminated fatally. Blood from the heart of this patient, when inoculated into guinea pigs, produced tuberculosis. Thus in two ways childbirth may cause a rapid extension of the tubercular lesions.

At the Society of Surgery, October 4th, MONOD discussed Vanverts' method of curing hernia without leaving sutures permanently buried in the tissues. For the radica cure of inguinal hernia, the sac is exposed, ligated, and cut away. The spermatic cord remains behind the

abdominal walls which the operator is about to suture in a single layer. The needle is passed through skin, aponeurosis of the external oblique, and such portions of the internal oblique and transversalis as are available, and then it is passed outward through the opposite aponeurosis and skin. This is essentially the method employed by Villar and others to close laparotomy wounds. Of twenty patients operated upon by this method eleven were seen some time later. All of the eleven were free from recurrence, and the results were described as excellent.

At the Society of Biology, October 7th, NICOLAS and LESIEUR told of the results they obtained by causing young fish to eat sputum known to contain tubercle bacilli. After seven months the fish were killed and the bacilli were found to be present in every organ of their bodies which was examined. The muscular portions of these fishes were fed to guinea-pigs, and in the nodules and abscesses which formed in the bodies of the pigs tubercle bacilli were readily demonstrated.

The Thirteenth Congress of the French Association of Surgery was held in Paris from the 16th to the 23d of October. Professor Antoine Poncet delivered the address of welcome, during which he mentioned some of the more recent discoveries of surgical interest. With reference to the drainage of wounds he took the somewhat novel position that in every wound, no matter how carefully made, there is always a possibility that blood or serum may collect in some portion of it and give rise to future trouble if the skin unites by first intention. His conclusion therefore is that primary union should never be aimed at until a wound has been methodically drained, no matter how aseptic it may appear. No one ever regrets having drained a wound; he said on the other hand many surgeons have had reason to regret their attempts to secure primary union without drainage. Take, for example, a laparotomy for appendicitis in the interval. It it preferable to leave an open wound which may be tamponaded without pressure. In this matter infectious peritonitis with possible death is avoided, as is also the occurrence of a hematoma or suppuration of more or less gravity, requiring a re-opening of the wound and a delay in the final recovery. If this plan of treatment is desirable in the case of aseptic wounds, it is equally so of course if the character of the wound is doubtful. The question of disinfection of a wound must then also be raised. If a wound is known to be infected this question will naturally be settled in the affirmative.

POLLOSSON and BÉRARD discussed the question of osseous tumors. In spite of attempts to settle the etiology of tumors in general, it is still necessary to classify them solely by their histological differences. Skiagraphy, however, has furnished some points which aid the surgeon in assigning a bony tumor to its proper place. It is of assistance in distinguishing the epiphysial tumors from chronic osteomyelitis and from tuberculosis; in distinguishing diaphysial tumors from chronic osteomyelitis and from syphilis; in distinguishing encapsuled tumors from diffuse tumors, with or without pathological fracture; and, finally, in distinguishing tumors associated with formation of new bony plates from other neoplasms. The surgeon should accustom himself to the skiagraphic examination and should not rely simply upon photographs. This is especially true in the case of sarcoma with myeloplaques, the only variety of sarcoma in which a partial operation is justifiable. Skiagraphy is equally serviceable in determining the exact condition of patients who appear cured. The authors attempt to determine the average period of recurrence of different kinds of tumor after their removal. Round-celled sarcomata and malignant chondromata usually return in less than a year. If the patient is not operated on, spindle celled sarcomata will produce death in from one to three years; round-celled sarcomata in two years or less; osteo-sarcomata in a year or sixteen months; and malignant chondromata and epitheliomata in about a year. Amputation is sometimes indicated even if recurrence is almost certain to follow, for the reason that the patient under such circumstances is usually saved the pain and distress caused by ulceration, for death from dissemination of the tumor generally comes before the recurrence has time to undergo degeneration.

MONTPROFIT reported the resection of 3.1 meters (122 inches) of intestine from a patient who suffered from an inguinal hernia as large as the adult head. The hernia was irreducible and the intestine so bound together and to the surrounding tissues by adhesions that it was impossible to free it or to return it into the abdomen. It was, therefore, resected and the ends anastomosed laterally. Of the portion of intestine resected thirty-two inches were large intestine, comprising the cecum, the ascending colon, and a little of the transverse colon, while the balance was made up of small intestine. The patient recovered.

JONNESCO since 1896 has removed twenty-nine spleens either for hydatid cyst or on account of enlargement due to malaria. Ten patients died, two from hemorrhage and eight as a result of pulmonary complications. Experimentally, he satisfied himself that atrophy of the spleen cannot be obtained by complete ligature of its vessels. Under these circumstances the spleen rapidly becomes gangrenous. Ligature of the artery or of the splenic veins alone produces a slight atrophy, while ligature of the greater part of the pedicle produces a rapid atrophy. He also determined that if adhesions are produced between the spleen and the abdominal wall it is possible to divide its pedicle without fear of gangrene. It follows therefore that if at operations a spleen is found to be too adherent for removal one may safely divide its pedicle and allow it to atrophy.

CALOT said that in the treatment of white swelling, immobilization might be avoided and the lesion be attacked by injections into the joint cavity. As soon as the treatment of the tubercular focus is finished, that is to say at the end of four to six weeks, attempts should be made to develop the movements of the affected joint, using for this purpose apparatus made especially for the joint affected, and combining the treatment with daily massage of the atrophied muscles. In this manner one can obtain a real cure of a tubercular joint, removing the disease, and preserving the usefulness of the joint.

LUCAS-CHAMPIONNIERE said that the idea that an inflamed joint must be kept immobilised is a false one. A distinction should be made between functional rest of a joint and absolute immobilization. He strongly objected to putting a tubercular joint up in plaster. This mode of treatment is indicated only if pain persists. Otherwise injections of camphorated naphthol combined with mobilization form the best treatment. The speaker said that he could mention many successes of this method of treatment, one striking illustration being a case of a boy who from the fifth to the seventh year suffered from tibiotarsal tuberculosis, but who recovered so perfectly that he was able to perform his military duty.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.—SECTION ON PEDIATRICS.

Regular Meeting, Held October 12, 1899.

HENRY KOPLIK, M.D., in the Chair.

DR. HENRY HEIMAN presented two interesting cases of nervous disease in children in which one of the principal symptoms was advancing blindness. In the first, a girl aged six years, rather large for her age, there were no symptoms except that she had never been very bright, and had not developed rapidly. Ophthalmoscopic examination showed that optic atrophy was developing. Her general health was good. In the boy the history is of rather more importance. He did not get his first tooth until thirteen months, but he learned to talk and walk at fourteen months. He fell about eight months ago against an iron railing, but it is doubtful if this was not rather an effect of his incipient blindness and ataxia than a cause of his present condition. The parents admit that he was never very bright. He is now almost blind. His blindness and ataxia seem to indicate a tumor of the pons, with some pressure on the cerebellum.

DR. WOLFE gave the results of the examination of the eyes in this latter (the boy's) case. There are choked discs on each side, and the external eye muscles are greatly interfered with, the abductors on both sides being especially affected. All movements of the eye are limited.

DR. WIENER said that in the first case the pathological condition present seemed to be a chronic internal hydrocephalus, an affection described some years ago by Quincke of Kiel in Germany. The presence of too much fluid in the ventricles of the brain in the cases causes pressure symptoms and atrophy of the optic nerves. The absence of any focal symptoms substantiates this diagnosis. The prognosis of the case is by no means absolutely fatal. Patients may often live for years. The best treatment is by inunctions of mercury. In a number of reported cases this has done good. In the second case, that of the boy, the involvement of both abducens muscles of the eye points to the fact that the tumor is very probably situated in the superior peduncle of the cerebellum. Its situation here would seem to be confirmed by the fact that the pupillary reflexes are perfectly normal. In this case a double trephining by relieving the pressure within the brain case might save whatever of sight is left, and such being indicated in the case, should certainly be undertaken. While in the first case lumbar puncture should be undertaken in order to relieve the pressure of the accumulated cerebrospinal fluid within the brain; in the second case lumbar puncture would not be advisable. The tumor is situated very close to the fourth ventricle, and any change of the pressure condition might lead to the exertion of some pressure upon the fourth ventricle and bring on a fatal termination.

DR. JACOBI said that he would certainly advise lumbar puncture to be tried in the first case; the operation was an extremely simple one, and could be performed without subjecting the patient to any risk.

DR. KOPLIK said that as a rule there was absolutely no danger in lumbar puncture, and it should be used more than it is at present, especially in such cases as the first one. Out of the thousands of cases in which lumbar puncture has been done up to the present time there seems to be only one case in which it has caused a fatal issue.

The first paper of the evening, entitled

A CASE OF SCURVY,

was read by DR. WALTER LESTER CARR. The paper, with the interesting discussion which it called forth, will appear later in the MEDICAL NEWS.

The subject of the evening was then taken up,

ANTIPYRESIS IN THE FEBRILE DISORDERS OF INFANCY AND CHILDHOOD.

The first paper on the subject was read by DR. ABRAHAM JACOBI, and was entitled

ANTIPYRETIC DRUGS, THEIR USE AND ABUSE IN THE TREATMENT OF FEVER.

Antipyresis may be obtained in many different ways. A direct method is the destruction of the microbes that cause the fever by the use of antiseptics. Then it may be secured by paralyzing the circulation, as by the use of veratrum viride or by digitalis. The effect of digitalis is, however, very unsatisfactory in this respect, and requires the use of more of the drug than is advisable. A lowering of temperature may be secured by acting upon the sources of heat production or by increasing heat elimination. Quinin acts upon the cells of the body and so prevents the production of as much heat as usual. There are drugs that produce a cutaneous hyperemia and free perspiration, and so lead to the elimination of heat. It has always been a question as to whether we could kill microbes once they had gained entrance to the blood and tissues of the patient by means of antiseptics. We can, but it is apt to kill the patient. We may paralyze their action, as Prudden did, by dilute carbolic acid. By methods of the same kind there is no doubt, despite all that has been said to the contrary, that we can make antisepsis effective in the cavities of the body.

Quinin acts upon the cells because it produces a fall of temperature even after section of the cord. Phenol acts upon the central and peripheral nervous system. Antipyretics of this kind undoubtedly produce good results. It has been objected, however, that high temperature is

Nature's conservative reaction by which she kills bacilli and forms antitoxins. Unfortunately fever kills cells also, and it would be absurd to talk of the beneficent effects, for instance, of heat in sunstroke. The mortality of fever is in almost exact proportion to the height of the temperature. Persistent high temperature kills of itself, while a remittent fever, though very high at intervals, does not. Fever depresses all cellular energy, and must be combatted.

There are, however, no ironclad rules in the matter. A temperature that is extremely harmful to one patient may have little effect on another. A disease may begin with high temperature and not exhibit any of it later. Whenever temperature is injurious it must be treated. To let high temperature quicken the breathing and heart action in pneumonia when so much depends on the activity of these functions, would be eminently foolish. Whenever high temperature threatens to produce convulsions the indication is to lower it. This is conceded by everyone. When there is a possibility of such a termination, or of any other serious symptom the same indication holds. Death has occurred from persistent high temperature even during convalescence from disease. Children stand high temperatures very badly. They are much more affected by any harmful influences than are older people, and the same holds true for small animals. Experimentally dogs two days old have starved to death in two days; at five years old they live for thirty days. The same thing has been demonstrated in pigeons.

It must be remembered that children are very different from adults in certain respects. They have less blood, for instance. A child's blood represents one-nineteenth of its body weight; an adult's one thirteenth of the body weight. There is less fibrin in their blood, and it is of less specific gravity. Hence the facility with which children become hydremic. Antipyretics cause rest, and so save the patient from harmful influences that would perhaps seriously affect the developing structures. Especially when water is indicated hydrotherapeutic measures will be found to give the child refreshing sleep. Antipyretic drugs give in a measure like results. Patients have idiosyncrasies, and then certain drugs must not be used. But after all it is not a Greek name for a disease, but a human being that is to be treated. Quinin is very effective wherever there is oscillation of temperature. It is a true antiperiodic as well as an antimalarial drug. For persistent high temperature it is not so effective. It may be given to children mixed with chocolate or in coffee syrup, and will be taken readily. In chronic malaria ergot has proved a very effective drug in my hands for nearly forty years. When first used it sometimes contracts the spleen and brings on an acute attack of malaria by throwing into the circulation malarial parasites that have been lodged in that organ. In such cases it is often well to combine it with quinin.

Salicylic acid is an effective antipyretic that acts centrally. It is very irritant, and so the sodium salt is preferable for administration. Oleum Gaultheria, which is practically methyl salicylate, is effective when applied externally in ointments. Antipyrin has been used a great deal abroad. The skin eruptions that it causes show that it produces changes in the walls of the blood-vessels. Certain patients have an idiosyncrasy against it. The drug seems to be inactive in brain disease. Salipyrin is an allied drug for which there is less idiosyncrasy. Acetanilid does not disturb the stomach and skin, but it should not be used because it is a poison to the tissues, and produces methemoglobin. Phenacetin resembles it, but is not so strong. Lactophenin sometimes produces jaundice. I have seen it once, and others report the same thing. When patients are weak, alcohol, by acting as a stimulant and dilating the peripheral vessels, causes a fall of temperature. This substance has been much abused, but still it should not be utterly condemned. It is too much to say, as has been said, that practitioners give alcohol just in proportion to their ignorance. In the infectious fevers I consider alcohol of the greatest possible service. In septic cases with high fever where 100 cubic centimeters of alcohol does no good, 200 to 300 may do good. I have seen 500 cubic centimeters, that is, 2 pints, taken with advantage in the twenty-four hours. As soon as the febrile stage is passed the alcohol causes delirium. It should not be given in the early stages of such diseases as pneumonia in which hyperexcitation of the patient is the rule, while it is of great service later. In chronic diseases it very often replaces food, and should be used freely and persistently.

DR. SIMON BARUCH read a paper, entitled

HYDRIATRIC MEASURES IN THE MANAGEMENT OF THE FEBRILE DISORDERS OF INFANCY AND CHILDHOOD, WITH PRACTICAL DEMONSTRATIONS OF THE VARIOUS HYDRIATRIC PROCEDURES.

He said in brief that there are certain differences in the hydriatric treatment of the diseases of childhood and of those of adults which justify the reading of a special paper on this subject. In general, it must always be borne in mind that water is something more than an antipyretic, that it is a real and important therapeutic measure. It is the child that must be treated in every disease, and not the fever which the child may have. Our object is to assist Nature in her efforts to overcome the disease, and not to jugulate the disease. For the restlessness of fevers in children nothing is more efficient than cool bathing. The water need not be at first so cool as to shock the patient. If we begin with the water at ninety degrees, getting it cool to eighty or seventy-five degrees, and then three hours later begin with water at five degrees lower in temperature, we will gradually accustom the patient to the application of cold water without shock. The refreshing sleep which occurs so soon after a cool bath will quickly persuade the parents to abandon any prejudices that they may have had against the bathing treatment. It is to be remembered that the vessels of the skin are capable of holding two-thirds of all the blood of the body. When they are distended because of the weakness due to fever, an excellent opportunity is given for bringing the temperature down readily and easily. But something more than reduction of temperature is accomplished by the use of the bath. It is the best possible stimulant to the nerves and to the

vascular system. This stimulation causes increase of function by the tonic effect it produces, and this, rather than antipyresis, is the main object of hydrotherapy.

In the use of hydrotherapeutic measures some almost incredible mistakes are made. I remember once being called in consultation by a physician who had a case of scarlet fever with a temperature of 106°F. which he was not able to bring down by means of cold baths. I found when I got to see the patient that he had been given but one bath, and that without friction. Shock had ensued, and the parents had very naturally objected to any further bathing. But by beginning with water that was not very cool, with carefully rubbing the child while it was in the bath, I succeeded in bringing the temperature down without much difficulty. Shock need not be feared in these cases. The rubbing should not be done with a sponge, as is so often the case, but with a rather coarse cloth that holds plenty of water. There are certain diseases that do not stand hydrotherapy very well. Pneumonia and scarlet fever are the most important among them, but with care proper measures can be adapted for the treatment of even these diseases with excellent results. Some of the best authorities have expressed in no uncertain tones their approval of hydrotherapy in children's diseases, among them I may mention Jacobi, Baginsky, Hutenel, Furbringer, Guimon, Jurgenson.

Dr. Baruch then demonstrated the method of applying the various compresses and packs that are used in hydrotherapy. He insisted especially that the wet compresses should not be covered with oiled silk, for the heat of the patient would very soon make poultices of them. A compress should always be covered with a piece of flannel or some other woolen material that permits of slow evaporation. The various packs should be wrapped closely around the body and the woolen covering above that should also be wrapped closely so as to permit the circulation of as little air as possible between the wet cloths and the body.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held October 19, 1899.

The President Dr. William H. Thompson in the Chair.

The paper of the evening read by Dr. Charles L. Dana, was entitled

LOCOMOTOR ATAXIA; ITS PATHOLOGY, PATHOGENY, IMPORTANT SYMPTOMS AND TREATMENT.

Dr. Dana said that he did not hope to say much that was new on so old a subject as locomotor ataxia, but wished to give a review of its present position in the light of his own clinical experience. It is essentially a nervous disease with changes due properly to the disease only in the nervous system. All other changes in the body are but secondary. The peripheral sensory neuron is the main seat of the disease. It is not essentially a disease of the spinal cord but rather of the spinal ganglion and its central branch, though the peripheral branch is also affected.

The functions performed by different sets of nerves in the sensory columns, true sensation, the muscular sense, pain, the temperature sense, etc., are developed at different periods in the growing organism. They are evidently carried by different sets of nerve-fibers. Tabes picks out these sets of fibers for its attack in varying ways and at different times in different individuals. In some cases the prominent symptom is ataxia, in others the absence of reflexes, in still others visceral or rectal sensory crises, or optic atrophy.

The disease attacks different segments of the cord in different cases. In some the lumbar segment is mainly affected, producing symptoms in the lower limbs, in others the dorsal segments are involved producing abdominal symptoms. At times the cervical enlargement is affected when we have the symptoms of superior tabes mainly affecting the arms and hands. At times the affection strikes even higher up, affecting first the nerves to the eye, which are homologous in large measure with the spinal nerves. At times even the motor roots are affected as the ocular palsies denote. At times the cerebral ganglion cells are affected, giving a set of cerebral symptoms that correspond in certain ways to the spinal ones. For the delusions of grandeur of general paralysis correspond very closely to the hyperesthesia and neuralgic crises which occur in the distribution of the spinal nerves.

We are practically agreed now that locomotor ataxia is always luetic, that is, if there were no syphilis there would be no tabes. It is not syphilis, primary, or secondary, or tertiary, but practically a history of preceding syphilis is present. The disease may not always be the lues of the syphilographer. Within the last few months, I have had a patient who having developed a primary sore was treated very carefully for syphilis by all the approved methods, including a series of hot baths at Hot Springs. He never had any other symptoms of syphilis except the primary sore. Yet ten years afterward he developed tabes. I have had a patient who, noticing a slight abrasion after suspicious intercourse, went to Agnew in Philadelphia. The symptoms were so slight, Agnew absolutely refused to treat him. For five months he insisted on calling on Agnew with regard to the matter. Agnew absolutely insisted that he had no syphilis. Yet later he developed tabes. How different all this is from typical lues. It would almost seem that there was another poison introduced at the same time with the syphilitic virus that produced the disease, or that there was some by-product of the syphilitic process. Certainly, there is something in the process that syphilographers do not ordinarily describe.

Two important factors in the etiology of tabes are heredity and overexertion. By heredity I mean not that there is a distinct history of transmission of family nervous disease, but that there is a neuropathic tendency. The basis on which tabes, like its cousin, hereditary ataxia, develops is a congenitally weak set of sensory neurons. It is, as it were, a teratological defect of the spinal nervous system. As to overexertion, tabes occurs particularly in people who are very much on their feet, as in salesmen, commercial travelers, soldiers and the like. It occurs in sailors almost never. The reason for their escape being seem-

ingly the perfectly healthy circumstances under which they live as regards fresh air. Overwork and alcohol do not seem to me to count for much in the etiology of the disease, and exposure to cold, despite the number of authorities who unite in describing it as a causal factor, has never seemed to me to enter very actively into the etiology of the disease.

With regard to symptoms, the two classical symptoms are the Argyll-Robertson pupil and the loss of the kneejerk. The pupillary symptom is almost sufficient by itself to justify the diagnosis of tabes. The loss of the kneejerk with one other symptom is sufficient for the diagnosis. In order not to miss the disease it is important to remember that about ten per cent. of the cases begin anomalously. A number of patients in my practice have presented rectal hyperesthesia as the first symptom. It was usually supposed that they were suffering from fissures, or piles or the like. Surgical intervention even sometimes gave relief. In some cases at first no other symptom could be found. Sometimes the pupillary reflex or the kneejerk, made the diagnosis.

Tabes often develops with its first symptom as a bad neuralgia. This may occur without defect of the kneejerk or any pupillary symptom or ataxia. Often the diagnosis must be made on the pain alone. The peculiar lancinating character and the perfectly good health of the patient in the interval are the characteristic signs. At times when no other symptom is present there is a slight swaying of the patient when asked to stand with closed eyes. In healthy persons the swaying is usually anteroposteriorly. Tabetic patients have a lateral sway. A very good test of the muscular sense is to have the patient stand on the toes with the eyes closed. Often when no other symptoms are present there are patches of anesthesia on the thighs or in the genital region. Gastric crises are frequently a solitary symptom, and are often treated as indigestion for long periods. In one such case I found a girdle of anesthesia at the level of the umbilicus which confirmed the diagnosis of tabes.

Sometimes the first symptom is a sudden causeless swelling of the knee or the ankle-joint, or the swelling may occur after very slight injury. Sudden fracture of a long bone without very much cause is always suspicious. If the patient has any history of previous syphilis, the case is more than suspicious of tabes. Laryngeal crises may occur early, but I have seen them very rarely. Patients describe a tickling sensation in their throats, a feeling of suffocation with intense dyspnea, or they may even have an epileptic convulsion as the consequence of these feelings.

Treatment.—The canonical treatment is first to give a rigorous anti-syphilitic course for six to eight weeks to be followed by tonic treatment, these to be repeated once a year or oftener. In the intervals small doses of mercury and the iodids are to be administered. Antisyphilitic treatment is perhaps supposed to do good because tabes is milder now than it used to be. Perhaps the justification for its administration is found in the fact that tabes is always a post-syphilitic disease. No neurologist can say definitely that syphilitic treatment does good, yet we somehow are persuaded that it benefits certain patients. Some neurologists even feel that we can not refuse to give antisyphilitic treatment though there be no syphilis in the history. It is time to change our opinions in this matter. If there is a history of syphilis then antisyphilitic treatment is indicated. The best method of administering mercury in these cases is by hypodermic injection of $\frac{1}{30}$ to $\frac{1}{20}$ of corrosive sublimate once a day in 30 minims of water. This should be continued for from two to four weeks, according to the susceptibility of the patient. Then, potassium iodid should be given, beginning with 30-grain doses three times a day and increasing the dose but not to more than 330 grains per day. This is continued for four weeks and then an interval of six to eight weeks is allowed to elapse. If the patient does not stand hypodermics of mercuric chlorid well then inunctions should be given. These may be continued for six days, the patient then should take a bath, and continue the inunctions then for six days more, and thus persist in the treatment for four or five weeks, or until symptoms of mercurial saturation come on. Tonics should be used, especially phosphorus. Lukewarm baths from 94° to 96° F. are of a great deal of service. They may be given with or without a cool affusion at the end. These baths may contain some salt, or even the carbon dioxid baths may be used, and are often of service.

During the tonic period of treatment counterirritants may be applied to the spine. Patients should rest a good deal, should go to bed early, sleep late and take an hour's sleep in the afternoon. They should be much in the open air, they should take exercise by riding, not walking. Neither an excessive meat diet nor one consisting of vegetables only is good, but a judicious mixture of both. Patients suffer enough without depriving them of all consolation, so that if they use tobacco and alcohol in moderation these may be permitted. It is better to leave them at their business so as to furnish them an occupation for their mind and not forbid them amusements. The tonic and bath treatment should be repeated at least once a year.

When there is absolutely no syphilitic history then antisyphilitic treatment should not be given. There is no evidence of its ever doing any good and if the patient is delicate it may do harm. Tabes is practically a premature senility of the sensory neurons. The best thing at the beginning of treatment then is a two months' rest and bath treatment. The best specific for the disease is an absolutely regular life such as is followed in hospitals. While the poor get better in hospitals, the rich often experience no improvement at home. Institutional treatment is a real specific. Electrotherapy is also of service. Nitrate of silver, while of course not the specific that it was formerly claimed to be, sometimes does good. It should be given in quarter-of-a-grain doses three times a day. The combination of strychnin and morphin has been effective in my hands. Patients should usually be put to bed, while the strychnin is being administered. I give $\frac{1}{60}$ of a grain of strychnin and of morphin, and gradually increase the dose to $\frac{1}{30}$ of each at the end of a week and to $\frac{1}{20}$ at the end of three weeks. I rarely give more than this, though at times I have given as much as $\frac{1}{5}$

three times a day. I always diminish the dose gradually before leaving off its administration. I repeat the process after three months. It must be borne in mind that strychnine may increase the pains, and may even cause collapse, when of course it is contraindicated. It should not be given in very acute cases and it should not be given in absolutely stationary cases, nor in incipient cases.

While hot baths may be dangerous, lukewarm baths especially with a cold affusion are very serviceable. They would better be taken at home than at thermal springs. Patients meet others suffering from the disease at watering-places and learn too much about the affection for their own good. Some months spent at a hot spring often do good, notwithstanding, and there are springs here in America and in France as well as at Nauheim in which patients are distinctly improved.

Stretching of the cord has been practised. Patients should sit on a board, while the head is bent forward between the legs and this position maintained for eight or ten minutes. In some cases this relieves the pain, restores the sexual potency, and benefits the ataxia, so that it should be tried. With the Fraenkel treatment I have been rather disappointed. It is supposed to train the patients to walk again, but in most cases it seems to do very little good. Suggestion is an important feature in the therapeusis of tabes and must never be neglected. Patients must not be left to think that something can not be done for them. Assurance must be given them that time and patience will make their malady much more bearable and that an alleviation of their symptoms will be secured.

In the discussion Dr. G. M. Hammond said: Tabetic symptoms are not necessarily due to an essential disease of the neurons. The affection may be a sclerosis, the overgrowth of connective tissue causing a secondary degeneration of the nervous element. The pathological change may be a syphilitic occlusion of the blood-vessels of the cord, thus depriving the nervous elements of their nutrition and thus cause them to degenerate. Antisyphilitic treatment is indicated. It does not improve the condition, but it prevents further changes. Moderate exercise constantly taken is the best for tabetic patients. Electricity of any kind never does any good. Hydrotherapy is of service, but drugs in the water are not of value. The skin does not absorb medicaments. Fraenkel's method of reteaching co-ordination has not been as beneficial in my experience as I expected. It is doubtful if it does more than teach patients to use their muscles under the direction of their eyes.

Dr. Joseph Collins said: Tabes is not a disease of the spinal cord. The sooner we get rid of this idea the better. It is a disease of the peripheral sensory neurons, part of which happen to extend into the cord. I have no patience with those who still hold the theory that syphilitic vascular changes have anything to do with the degeneration of the nervous elements. No such vascular changes have ever been observed post-mortem in simple tabetic cases. I do not agree with Dr. Dana as to the neuropathic condition of patients in whom tabes develops. In one hundred cases that I have examined very carefully for this purpose I found no psychical or somatic stigmata of a nervous disposition. The trouble is that we do not know how to treat syphilis. The syphilographers tell us that they can cure syphilis, but years after their pretended cure come the nervous troubles that the neurologists see. I have no faith in antisyphilitic treatment for tabes itself. In cases where there is no syphilitic history I would as soon think of giving diphtheria antitoxin as of giving mercury, in fact much rather, for there might be some hope that it would act in opposition to the toxin in the system. We do patients harm, we put out their eyes, we hasten the development of ataxia symptoms by the depressing effect of mercurials. Tabes is not milder than it was. It is only that we see milder cases now that our diagnostic methods enable us to recognize its minor forms. Institutional treatment is the ideal. Even the poor patients on the islands here in New York get along much better than the rich patients for whom so much is done at our offices and at their homes.

The Fraenkel treatment has given excellent satisfaction in my hands. Some years ago a dancer became famous by appearing at a private dinner. A year later she came to my office practically helpless from locomotor ataxia. After treatment by the Fraenkel method she is now playing one night stands all over the country making her living once more as a dancer. Electricity is not curative, but it stimulates and encourages the patient and does good by suggestion.

Dr. Sachs said that it must not be forgotten that the most noticeable lesion of tabes found post-mortem is the degenerative process in the cord. To remove the disease from the realm of spinal diseases would be a mistake. With regard to the treatment of tabes it must be borne in mind that there is often in the disease an element of active though not patent syphilis. In all such cases antisyphilitic treatment is of distinct benefit. Such cases are more frequent than is thought. Under this treatment the knee-jerks sometimes return and even the ataxia and other characteristic symptoms of tabes improve. Such improvement has been observed especially by Erb. Of course it is well understood that the disease that is helped by the mercury in these cases is really cerebrospinal syphilis.

Rest is a very good remedy for tabetics. In many cases the putting of the patients to bed for from three to four weeks will benefit them so much as to amply repay them even in their own estimation for the enforced idleness. Dr. Dana seems to underrate the value of the Fraenkel method of treatment for the incoordination for tabes. In my experience almost all the patients on whom it has been faithfully tried have been distinctly improved. Patients do not care whether the pathological condition on which their disease depends is modified or not, provided their symptoms are relieved. This is exactly what is accomplished by the Fraenkel training, for it enables them once more to control their movements.

Dr. M. Allen Starr said that we are prone to accept exaggerated opinions in medicine. It seems too much to say that the disappearance of syphilis would mean the disappearance of tabes also. Only Moebius in

Germany now claims that tabes is due to syphilis alone and in every case. Even Erb has been able to find syphilis in only a little more than 89 per cent. of his cases. Personally I have found no reason to think that syphilis had existed previously in about 40 per cent. of my cases in private practice. Most of the patients were thoroughly reliable and intelligent, their confidence had been completely won and there was no reason left to think of deception on their part. Syphilis is undoubtedly of great importance in the etiology of tabes, but there are also other causes.

As to antisyphilitic treatment for tabes, it would seem to be entirely justified only when there is syphilis in the patient's history and some symptoms of active syphilis present. In Japan while syphilis is very common tabes is very rare. These facts I have on the most trustworthy Japanese authority. The most plausible reason for this escape of the Japanese from tabes would seem to be due to the fact that they bathe so freely. The peripheral nervous stimulation so frequently recurring tones up the central nervous system and enables it to withstand better the ravages of disease. Hydrotherapy should then be of the greatest service in the disease. Strychnin, however, has always in my experience increased the pain and I no longer use it.

DR. WILLIAM H. THOMSON said that the greatest source of errors of diagnosis in the initial stages of tabes is the occurrence of visceral symptoms. Gastric symptoms are especially liable to misinterpretation. Not long ago in a case that had been treated for a long while as dyspepsia, the only symptom was recurring attacks of excessively painful flatulence. The suspicious circumstance in these cases is the absolute freedom from symptoms in the interval. For the peripheral anesthesias and paresthesias, red pepper locally is of benefit. For the pains, acetanilid is very useful, especially combined with belladonna. Patients improve very much on cod liver oil. Artificial Nauheim baths, that is carbonic acid baths, do good. The rest cure is efficient but expensive. Patients come to us in order to enable them to stay at their work. When rapidity of pulse develops, the general condition will always be improved by the use of intestinal antiseptics. Tachycardia developing in the midst of any disease will usually be benefited by the same method of treatment.

REVIEWS.

ON THE STUDY OF THE HAND FOR INDICATION OF LOCAL AND GENERAL DISEASE. By EDWARD BLAKE, M.D., Member of the Royal College of Surgeons. Second Edition. New York: G. P. Putnam's Sons, 1899.

THE fact that a second edition of this little work should be called for proves one thing certainly: that the profession is still mightily interested in all things, even in special details, which go to aid in establishing a diagnosis. The author has added several new chapters to this edition, including a discussion, as to the causation of chloroform syncope. This is considered in the relation of respiration to the pulse. The tremors are also fully treated of, and some new plates have been added to illustrate the conditions described. A book like this makes for accuracy in diagnosis and as such it has a value distinctly its own; but we think the author has been a little over-zealous perhaps in finding more in the hand than disease actually presents, or, better, that his observations have been tinctured with prejudice. Be this as it may, the book is very interesting and should commend itself to a large audience.

THE DISEASES OF THE NERVOUS SYSTEM. A Textbook for Physicians and Students. By DR. LUDWIG HIRT, Professor at the University of Breslau. Translated, with permission of the author, by AUGUST HOCH, M.D., formerly Assistant Physician to the Johns Hopkins Hospital, now to the McLean Hospital, Waverly, Mass., assisted by FRANK R. SMITH, A.M. (Cantab.), M.D., Instructor in Medicine in the Johns Hopkins University, with an Introduction by WILLIAM OSLER, M.D., F.R.C.P., F.R.S., Professor of Medicine in the Johns Hopkins University, etc.. New York: D. Appleton and Company, 1899.

AFTER reading this work, one cannot fail to be impressed by the vast clinical experience of the author. It teems with original observations throughout and shows thorough familiarity with nervous diseases. However, nearly six years have elapsed since Hirt penned the introductory lines to the second German edition—of which the book before us is a translation, and during this time much has been written upon the subject of which no mention has been made. This is particularly noticeable in the discussion of myxedema and acromegaly, both subjects being dealt with in far too cursory a manner.

Following each subject is a list of the literature, arranged in a chronological order, ending with the year 1894. This, as far as it goes, enhances the value of the book as a work of reference. As a text-book for students we cannot commend it; as a reference work it has its place.

The book contains a large number of woodcuts, some of which are ludicrously crude in these days of superbly illustrated medical works. They are, however, for the most part, satisfactory, and add materially to the value of the book.

REPORT ON THE INVESTIGATIONS INTO THE PURIFICATION OF THE OHIO RIVER WATER FOR THE IMPROVED WATER-SUPPLY OF THE CITY OF CINCINNATI, O. Made by the Board of Trustees, Commissioners of Water Works. Cincinnati Commercial Gazette, Job Print, 1899.

THE volume before us is another one of a series of exhaustive reports upon the question of improved water supply for large cities. The investigations carried on at Cincinnati are similar to those carried on at Louisville the report of which was reviewed in these columns some months ago. At Cincinnati, Ohio River water is consumed and the source of the two cities being practi-

cally the same, we would naturally expect the same treatment, which, in short, consists of a modification of the English system. In this special case subsidence, addition of coagulant (sulphate of aluminium), and further subsidence before filtration through American "mechanical" filters is the method practised. We find the relative cost of the method here described to be about 3.8 per cent. cheaper than the improved English method. We are pleased to note that the new intake is above the discharge center of "thirty-two small sewers and drains," below which the old intake was situated. The book is clearly written, and is embellished by many plates of the experimental plant and other structural matter, all of which are drawn to scale.

INTERNATIONAL CLINICS. A quarterly of clinical lectures on Medicine, Surgery, etc., and specially prepared articles on Treatment and Drugs by Professors and Lecturers in the leading Medical Colleges. Edited by JUDSON DALAND, M.D. Volume III. October, 1899. Philadelphia: J. B. Lippincott Company.

THE feature of this issue of the International Clinics is the series of articles on Treatment. While American medical men generally will not agree with Professor Stintzing of Jena, as to the treatment of incipient appendicitis, it, at least, is interesting to find that he has the courage of his convictions in the matter of treating appendicitis with opiates. For instance, he says, "our patient is under the opiate treatment, which is, as you know, we consider, the only rational internal treatment under the circumstances. He has not had a stool before in eleven days and we have not considered it necessary to give him a purgative or take any means to secure an evacuation, as we felt sure that nature herself would take the best and most natural method to clear the fecal matter from a practically normal large intestine as soon as we had ceased quieting peristaltic movement by opiates.

Professor Grancher of Paris, the well known specialist on tuberculosis, presents the third of a series of clinics on the treatment of tuberculosis. Professor Ernest Kuester of the University of Marburg has a very interesting clinic on the surgical treatment of tuberculous nephritis, in which he suggests the examination of the other kidney by an exploratory incision whenever it has been decided to remove a tuberculous kidney.

Professor Helferich of the University of Griefswald, who lately accepted Professor Esmarch's chair as professor of surgery at the University of Kiel, reviews the treatment of recent and old fractures of the patella. What is novel in the clinic is the suggestion, original with Professor Helferich himself, that in old cases of fracture of the patella where the fragments are widely separated and contracture of the quadriceps is too great to allow of the hope of bringing the fragments together, pieces of sterilized bone should be inserted in the gap, between the fractured ends. This makes an unshapely patella, in certain respects, but as no two patellas are very much alike it is not noticeable, while the pully function of the quadriceps over the knee-joint is restored.

Dr. A. Goldscheider of Berlin, presents a most practical review of the treatment of tabes dorsalis. The Fraenkel treatment of tabes, by training the patients until they regain their coordination, is given with special detail. Certain features introduced into this system of treatment by Professor Goldscheider himself are of particular interest. Exercise for hemiplegics while in the bath is a very practical bit of treatment which Dr. Goldscheider introduces into the clinic in passing.

Professor Gerhart of Berlin has a very interesting contribution on apoplexy during pregnancy. Professor Gerhart does not believe, as most of the French school do, that the heart is hypertrophied during pregnancy; nor does he believe that there is any essential reason in pregnancy itself why apoplexy should occur more frequently at this time than at any other. Its occurrence is due always to secondary factors.

A note on epicondylalgia, that is the pain which occurs in the group of muscles attached to the epicondyle by Professor Bernhardt of Berlin should prove very timely just now. The functional neurosis called by this long name is due to certain strains on the forearm, such as occurs in delicate persons from holding up an umbrella, or in these modern days may come from holding up a heavy set of skirts.

THERAPEUTIC HINTS.

For Acute Pharyngitis.—

1. ℞ Potassi chlorat. . . . gr. xv
   Ol. menth. piper . . . gtt. ii
   Ext. krameriæ . . . gr. xv
   Ext. glycyrrh. . . . ʒ iiss.

M. Ft. troch. No. xxx. Sig. One troche every two hours.

2. ℞ Ammonii chlor. . . . gr. xxx
   Pulv. ipecac. . . . gr. ii
   Pulv. capsici . . . gr. ½
   Ext. glycyrrh. . . . ʒ ii.

M. Ft. troch. No. xx. Sig. One troche every two hours.—*Lefferts.*

For Prolonged Attack of Hiccoughs —

℞ Strychninæ sulphat. . . . gr. $\frac{1}{40}$
Camph. monobrom. . . . gr. ½
Hyoscyaminæ . . . . gr. $\frac{1}{50}$.

Sig. For one dose. Repeat according to indications.

Medication in Gastric Dilatation.—

1. ℞ Bismuthi salicyl.
   Magnesiæ
   Sodii bicarb. } aa. . . ʒ iiss

M. Div. in chart. No. xxx. Sig. One powder after each meal.

2. ℞ Bismuthi salicyl.
   Salol
   Magnesiæ } aa. . . ʒ iiss

M. As above.

3. If diarrhea be present:

   ℞ Bismuthi salicyl.
   Salol } aa. . . ʒ iiss

M. As above. *Dujardin-Beaumetz.*

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ORIGINAL ARTICLES.

THE BACTERIOLOGY OF YELLOW FEVER ONCE MORE.

(Translated.)

BY PROFESSOR G. SANARELLI,
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THE latest phase of the scientific discussion concerning the causative agent in yellow fever has led us into a path which threatens to last forever. The question at issue is becoming more and more involved, and is being practically lost sight of in the present discussion by many bacteriologists. It seems to me that the recent publication of the Report of the Commission of Medical Officers,[1] detailed by authority of the President of the United States to investigate the cause of yellow fever in Cuba ought to put an end to further controversy. This report, drawn up in the most conscientious manner, definitely substantiates the etiologic value of the bacillus icteroides. There are certain points of interpretation, it is true, though of very secondary importance, with reference to which there still exist some slight differences of opinion between the results of my own investigation and those of that commission. But these do not affect in the slightest degree the fundamental question at issue.

The investigations of the commission, with regard to yellow fever, I may say in passing, have been conducted with such evident seriousness, thorough preparation and scientific exactness that they form a striking contrast to the almost incredible and unpardonable levity with which a number of my opponents have thought it not improper to approach so important and so difficult a question.

It is perfectly true, as Dr. Novy[2] said, in his last article in reply to me that every scientific publication is open to doubt and should be submitted to scientific criticism. But it is also very true that criticism should not go beyond certain limits established by custom and that the discussion should always maintain a high scientific character, otherwise it will not be possible ever satisfactorily to determine a question. After having sustained with an unreasoning obstinacy that is only equalled by the ill success of their efforts the identity of the bacillus icteroides with that of Dr. Sternberg's bacillus X, Dr. Sternberg,[3] and his disciples, Drs. Reed and Carroll,[4] now dispute my discovery from other and entirely different points of view. So much has been said in fact, that in order to defend myself and satisfy every one, I should have to write an article every day, and there would never be an end of the controversy.

As a matter of fact, the arguments advanced by my eminent adversary, when seriously examined, frequently seem either without foundation or paradoxical; while the continuous insistence with which they are brought forward on every possible occasion renders response to them somewhat embarrassing. I am indeed somewhat of the conviction that the whole discussion is a miserable waste of time, and can have no definite scientific importance.

In this, my last paper in the discussion, I shall ignore entirely all the unimportant collateral questions, and shall set forth the arguments for my position as to the specific pathogeneity of the bacillus icteroides in its simplest and clearest terms. I have proclaimed and still proclaim that the bacillis icteroides is the specific causative agent in the etiology of yellow fever. Before my investigations, it had not been isolated nor recognized by any bacteriologist, nor had it been discovered in any malady, and it had never been found in a human cadaver. Since the publication of my investigation it has been isolated by Mendoza,[5] and Ramos[6] in Brazil; by Mesa-Gutierrez and Orvieto[7] in Mexico; by Pothier[8], Archinard and Woodson[9] in New Orleans; by Agramonte[10] in Cuba; by Wasdin and Geddings[11] in Louisiana, in Mississippi, and at Havana, and finally by Gauthier[12] in a case of yellow fever transported to Marseilles from Brazil on the steamer "Provence."

It may therefore be set down as definitely decided: *First, that the bacillus icteroides is undoubtedly found in patients who are ill of yellow fever, and in cadavers of those who have died from the disease.* This is not an opinion. It is a fact.

[1] "Reports," etc., Government Printing Office, Washington, 1899.
[2] MEDICAL NEWS, p. 385, September 23, 1899.
[3] MEDICAL NEWS, August 19, 1899.
[4] MEDICAL NEWS, September 9, 1899.
[5] *Centralblatt für Bakt.*, No. 11, 1899.
[6] *Brasil Medico*, No. 29, 1898.
[7] *Boletin di Consig Supr. de Salubrid*, Mexico, April 30, 1899.
[8] *Jour. of Am. Med. Assn.*, April, 1898.
[9] *N. Y. Med. Journal*, January 28, 1899.
[10] *Centralbl. für Bakt.*, No. 18, 1899.
[11] "Report of Commission," etc., *ut supra.*
[12] *Revue d'hygiene*, October, 1898.

My first investigations, carried out in the only way that was possible under the circumstances, without any guidance from the labors of others, in the midst of manifold inconveniences and in laboratories improvised from day to day on my journeys, allowed me to isolate the bacillus icteroides in only a little more than half the cases. I made this declaration with perfect sincerity at the time, just as Loeffler in his first communication in 1884 with regard to the discovery of the bacillus of diphtheria confessed that he had not been able to isolate this micro organism in every case from the throat of diphtheritic patients. The final demonstration of the specificity of the Loeffler bacillus was made only four years later in 1888, when Roux and Yersin were able to demonstrate in animals the specific lesions of the disease, analogous to those which occur in human diphtheria. I was able to definitely demonstrate the specificity of the bacillus icteroides not only as the result of a very large series of comparative observations in animals, but also after having performed a series of decisive experiments on human beings.

I can not ask that this last series of observations be repeated, but I must demand that they should be believed, and I can not permit them to be discussed lightly since I have seen the results recorded with my own eyes, and my observations were confirmed at the time by a number of colleagues who were as familiar as I was myself with yellow fever. When I declare that by means of the toxin of the bacillus icteroides I can reproduce in man the typical picture of yellow fever, I must ask that I shall not be met with the obvious objection that others have been able to obtain the same results by means of other microbic toxins. I am perfectly familiar with the investigations made in this matter by Fraenkel[1] and Rumpf.[2] They produced certain symptoms in man by injections of the toxin of typhoid fever and of the bacillus pyocyaneus, but these authors have never reproduced either yellow fever or its symptoms, nor its anatomical lesions. If I had not been able to reproduce in man genuine yellow fever, I would never have been justified in declaring categorically that I had discovered the specific cause of the disease. I would practically have lost none of the prestige of my discovery had I simply announced the bacillus icteroides as a probable cause of yellow fever, leaving to others the duty of establishing this fact definitively.

The typhoid bacillus to which Eberth's name is usually given was not isolated by Eberth, but by Gaffky. Eberth had simply the distinction of having seen it first, and this of itself alone suffices to establish the priority of a discovery. After all it must be remembered that I was not a novice in the field of bacteriology, nor was I making my first discoveries, and it would have been difficult to persuade me to compromise my reputation as a bacteriologist by the imprudent affirmation of facts that could not be substantiated. But even prescinding from such considerations, which, after all, are of secondary importance, it has come about that when investigations could be made with ample assistance and with every convenience of time and deliberation necessary for such work, the bacillus icteroides has been isolated in every case of yellow fever.

In fact, Archinard and Woodson in Louisiana[1] isolated the bacillus icteroides in eighty per cent. of their cases. Wasdin and Geddings[2] after their lengthy mission of investigation in Louisiana, in Mississippi, and in Cuba declare that the bacillus icteroides can be found in practically every case of yellow fever. The other writers whom I have mentioned above, though they have obtained the bacillus icteroides from yellow-fever patients and from the bodies of such patients after death, have not taken the trouble to calculate the percentage of cases in which it could be isolated. Agramonte,[3] who was sent by Dr. Sternberg to Havana to make control tests of my investigations, alone, protested vigorously that he was able to isolate it only five times in eleven cases. But he himself confesses that he was not able to carry on his investigations as completely as he would like to have done, because of limited supply of laboratory appliances, and because of the arduous and exhausting work which he had to carry on as a member of the medical staff. This confession accounts amply enough, it seems to me, for his partial success in the investigation. Under such arduous conditions of observation no one could hope to secure better results than did Agramonte under the circumstances.

We may set down as a second conclusion then, *that the bacillus icteroides can be isolated from practically every case of yellow fever.*

In spite of the repeated substantiation of my investigations Dr. Sternberg and my other opponents have raised the doubt that the bacillus icteroides may be nothing more than a very commonplace micro-organism present as a secondary infection. As to this I may be permitted a few brief considerations. How can it be conceded even *a priori* that a microbe which is found constantly in patients sick with yellow fever and in the bodies of those who

[1] *Deutsche med. Wochenschrift*, p. 985, 1893.
[2] *Ibidem*, p. 987.

[1] *N. Y. Med. Jour.*, *ut supra.*
[2] "Public Health Reports," No. 33, 1899.
[3] *Centralbl. für Bakt.*, No. 18, 1899.

have died from the disease; which can be isolated during the life of the patient and which constantly produces a perfect specific serum reaction with serum taken from the bodies of yellow-fever patients, from those actually sick of the disease, from convalescents, and from those who have recovered for many years from an attack of yellow fever; which reproduces in animals and in man, by itself and also by means of the toxins elaborated from it in vitro, the symptoms and characteristic lesions of yellow fever, can ever be considered as a simple microbic intruder on a par with all the other micro-organisms of secondary infection, which are well known and have been studied experimentally in every part of the world, because they are practically the same everywhere and in every disease. Besides this we know that careful observation demonstrates that the bacillus icteroides is the only microbe constantly present in yellow fever.

Archinard and Woodson in New Orleans have succeeded in obtaining agglutination in cases of yellow fever in ninety-three per cent. of the cases under observation. I was not able to obtain it in a single instance in eighty-six cases of normal blood, or in patients sick with other diseases than yellow fever, and have never succeeded in obtaining it in a single case in which the patient was either not actually sick with yellow fever or had suffered from it years before. Wasdin and Geddings during their mission in Havana studied carefully the bodies of thirty-one individuals who died from the most diverse maladies known and unknown, but all different from yellow fever and did not succeed in finding in a single case the bacillus icteroides present.

There has been but one discordant voice in the midst of the perfect unanimity in this matter, and that as might have been perhaps, foreseen, belongs to Dr. Agramonte, who was sent to Havana by Dr Sternberg. I have never attached much importance to Dr. Agramonte's work for the reason given above, but Drs. Reed and Carroll refer to it very confidently and seem to consider it of the highest importance. It will be well for us then to see how things stand in the matter. Dr. Agramonte sent a report to Dr. Sternberg from Havana, which was published during the current year.[1] He describes the case of a soldier who died with suspicious symptoms as he himself says, "a disputed case." At the autopsy he succeeded in isolating, first the bacillus icteroides, second the colon bacillus, and third, a form of typhoid bacillus. Very naturally Dr. Agramonte takes advantage of so promising an opportunity and immediately assumes that this supposed typhoid bacillus was the prime factor in the soldier's illness. He finds a way to make it appear that the patient really died of typhoid fever complicated by a secondary infection with the bacillus icteroides. In order to give more weight to his declaration he affirms that the other members of the yellow fever commission, especially Drs. Wasdin and Geddings, had arrived at the same conclusion. It does not require any hypercritical acumen, however, to decide that the disputed case was in reality a case of genuine yellow fever; and that the supposed bacillus of typhoid could be nothing else than one of the numerous bacilli belonging to the same family as the bacillus of Eberth, whose presence I have frequently demonstrated in the cadavers of patients dead from yellow fever[1] and which two of my students, Puppo and Ottoni[2], have already made the object of lengthy and detailed researches under my direction. Not only can this be presumed to have been the case but Wasdin and Geddings declared explicitly that the case of which so much account was made by Dr. Agramonte (Case No 7 of their report) was without doubt a case of genuine yellow fever.

Drs Reed and Carroll[3] were imprudent enough, notwithstanding all this, to announce that they had examined the liver of this case histologically and to announce that "from the microscopical findings we are strengthened in the belief that the bacillus icteroides in this case should be considered as a secondary invader" I can only think that in this they were joking at the expense of the suggestibility of their readers. As if they thought for a moment that it could be supposed possible to believe that by means of a microscopic examination they were able to make the bacteriological diagnosis of the bacillus icteroides in the midst of hepatic tissue, and then could afterward affirm that its invasion was primary or secondary. This assumption of theirs can only be the result of a too vivid imagination, and we can scarcely be expected to follow them seriously. From what I have said I think we can deduce the logical conclusion—*third, the bacillus icteroides is found only in those sick of yellow fever, or in the bodies of those dead from the disease. No one has ever succeeded up to this in finding it in a patient sick from any other disease; nor in the cadaver of any but an individual dead from yellow fever.*

We come now to the experiments on animals. As is the case with typhoid fever, with cholera, with infections by the pneumococcus, or the streptococcus, there exists no single lesion that can be said to be absolutely pathognomonic of yellow fever. The catarrhal lesions of the gastric and intestinal mucous

[1] *Centralblatt für Bakteriologie*, No. 18, 1899.

[1] *Annales de l'Institut Pasteur*, page 440, 1897.
[2] *Annali d'igiene sperimentale*, Roma, 1898.
[3] MEDICAL NEWS, p. 329, 1899

membranes, the erosions of the stomach, the hyperemia of the meninges, and of the parenchyma of certain organs, the hemorrhagic manifestations, the nephritis, the albuminuria and so forth, have, it is true, a particular importance in yellow fever, but they can be found in a great many other morbid conditions either as essential lesions or as secondary complications. Not even the fatty degeneration of the liver can be strictly said to be absolutely specific for yellow fever, since it is found at times in certain other morbid conditions. Despite all this the lesions of yellow fever when taken altogether, as Jaccoud very well says, constitute a pathological criterion that is more complete and more definite for this disease, than the pathological picture presented by the majority of the infectious diseases.

Now as it is impossible to reproduce the clinical picture of yellow fever in rabbits or guinea-pigs, or in animals generally, because yellow fever, like typhoid fever, cholera, pneumonia, and so forth, is essentially a disease that is limited to human beings, the question of the experimental study of the disease in animals must limit itself to the investigation of the question whether the micro-organism, which is supposed to be the specific causative agent of yellow fever, is capable of producing more or less completely all the principal symptoms and the lesions which are considered as more or less characteristic of the disease. As a matter of fact, we are able to obtain in animals, and especially in dogs, practically the whole anatomical and symptomatological picture of the disease. The modern scientific literature of the characteristics of the bacillus icteroides is unanimous in supporting this declaration. There is especially one lesion, however, which can be considered as of the very greatest value and as of almost pathognomonic importance in the post-mortem recognition of yellow fever in human beings. This is the extreme fatty degeneration of the liver. I would like to make it clear at first that when I speak of fatty degeneration I do not attach to the term in the present instance any vague or generic signification, because it is very well known that in many other infectious diseases, human and experimental, the hepatic cell can be affected by degenerative processes, more or less profound. I wish to designate, as a specific fatty degeneration produced by the bacillus icteroides, the true steatosis of the liver: that is to say, a state of extremely profound fatty degeneration, which is produced acutely and with so much intensity that the liver is affected to such a degree, so far as we know up to the present time, by but two specific morbid processes, namely, phosphorus poisoning and yellow fever. I insist upon this point, because I think it can be shown that by this lesion alone the morbific agent that produces it can be distinguished from every other. Its extreme steatogenic power, with regard to all elements of the body in general, but especially with reference to the hepatic cell, distinguishes the bacillus icteroides from all other pathogenic agents.

This important phenomenon can be observed especially and very noticeably in dogs. Foa,[1] Della Rovere,[2] Belfanti[3] and Zenoni, Bruschettini,[4] Wasdin and Geddings[5] have also observed it in a very marked degree in rabbits, and while Bruschettini has seen it also in pigeons and in turtles.

In the dog, all the observers who have investigated the subject carefully with the necessary experimental ability and without preconceived prejudices, have succeeded in finding this pathogenic action of the bacillus icteroides. To deny it now would seem the veriest absurdity. It suffices to read the experiments of any of the investigators of the bacillus icteroides, of course with the exception of Drs. Sternberg, Reed, and Carroll, and Novy, to find a description of an intense steatosis which has always been obtained with the bacillus icteroides, and never with any other micro-organism. I must, of course, concede to my opponents that not all the races of dogs are possessed of hepatic elements which are equally sensitive to the toxin of the bacillus icteroides. The age of the animal, and especially the race to which it belongs, exercise undoubtedly an important influence in the modification of the phenomena. If the experiments are continued, however, the observer will always succeed in obtaining such examples of acute steatosis of the liver as cannot be obtained experimentally, even when the animals are poisoned by large quantities of phosphorus. The liver appears absolutely yellow. It is anemic, and its density is greatly increased. The picture which I have had drawn and reproduced in my monograph is the only thing that can give a proper idea of its appearance to those who have not actually seen it. It must be remembered that in cases which run a very acute course the dark yellow color characteristic of the fatty degeneration is masked by the congestion, which has been set up in the organ by the intense irritation of the toxins of the disease. It suffices, however, to produce a slight superficial ischemia, by simple compression with the finger, for instance, to produce an immediate return of the dirty yellow color, and this at once discloses the profound steatosis of the organ that has taken place.

[1] *Giornale di real Accad. de médic. di Torino*, No. 3, 1898.
[2] *Riforma Medica*, July, 1898.
[3] *Giornale di real Accad. di médic. di Torino*, Nos. 5 and 7, 1898.
[4] *Gazetta degli ospedali*, No. 64, 1899.
[5] "Report of Commission of Medical Officers, sent out by the President of the United States, etc., Washington, 1899."

I have not myself seen, nor have any of the well-known investigators who have repeated and confirmed my experiments, ever observed anything similar to this important lesion in animals dead from any other microbic infection. This demonstrates that the steatosis, the true and complete steatosis, which transforms, as I have often seen, the whole liver into a compact mass of fatty degenerated material, is peculiar to the bacillus icteroides.

I have made a great many observations in this matter and the number of dogs that have been killed in my laboratory runs up into the hundreds. As a detail in my last article in the MEDICAL NEWS I have even carefully calculated by mechanical methods the amount of fatty material contained in the liver of dogs killed by the bacillus icteroides in order to compare it with that obtained from the livers of animals killed by other methods of experimental infection. Our experiments included microbes as varied as the cholera vibrio, the colon bacillus, the bacillus pyocyaneus, the bacillus of diphtheria, and the bacillus icteroides. The last mentioned bacillus was capable of producing in a shorter period of time a much larger quantity of fatty material than any of the others. I am myself almost convinced that in Dr. Sternberg's laboratory they have never succeeded in obtaining this steatosis, for it is so peculiarly characteristic that it would at once have attracted attention and convinced even the most skeptical of the specificity of the agents producing it because its appearance is not only extremely peculiar, but because it has an absolute analogy with the appearances which are so well known in human cadavers after yellow fever. This convinces me that perhaps in the Army Medical Museum experiments are devoid of value as far as regards yellow fever, because they are working with a bacillus which is not the bacillus icteroides. It is not possible to admit that in Washington the bacillus icteroides seems to be endowed with characteristics very different from those which have been found repeatedly and indisputably in other cities of the Union, and in all the other countries of the world.

The number of observers who have noted this characteristic steatogenic power of the bacillus icteroides is very large, and is well known by those who follow the literature of the etiology of yellow fever. It is evident then that the negative results obtained by Dr. Sternberg and by those working under his direction are deserving of very little confidence. I think we may without further ado draw the following conclusion: *Fourth, the bacillus icteroides reproduces in animals all the symptoms and all the anatomical lesions which can be considered especially characteristic of yellow fever in human beings.*

Having said this much I may be considered I think rigorously to have fulfilled my duty. Koch's famous laws may seem to have lost some of their primitive and absolute value in our day. Yet, notwithstanding this, it is true that the bacillus icteroides, considered as the specific causative agent of yellow fever, is in all important particulars perfectly in accord with these laws. First, it is found in practically every case of yellow fever. Second, it is never found outside of yellow fever. Third, it can be cultivated in artificial nutritive media. Fourth, it reproduces in animals an anatomical and symptomatic picture analogous to that of yellow fever in the human being.

I have still to reply, however, to certain objections which have been more or less courteously urged against the results of my investigations by Drs. Reed and Carroll. The insistence of these two young bacteriologists of the Army Medical Museum, it strikes me, is due rather to an unfortunate deference which they have for the opinions of their surgeon general than to any special desire for the advancement of scientific truth.

I certainly do not feel that it would be quite proper to force Drs Reed and Carroll into insubordination to what they seem to think their duty, nor do I wish to tire the reader's patience nor take up valuable space in the MEDICAL NEWS in discussing point by point their last article.[1] In that article, while professing a spirit of the greatest courtesy towards my modest person, they get into a most inextricable confusion of experimental results and scientific deductions, but somehow out of it all they emerge at the end with enough energy and self-confidence left to insist that the bacillus icteroides is identical with, or at least is a variety of, the bacillus of hog cholera!

It is only too well known that microbes are like human beings, in this particular at least; seen from a distance they all look alike. Even Drs. Reed and Carroll themselves have furnished an excellent demonstration of this principle when they write: "On the contrary, we wish to state that placed side by side in gelatin we have been unable to detect any differences in the colonies of the two bacilli with the naked eye, and that it is only by means of the microscope that faint differences can be detected."[2]

I do not deny that between the bacillus icteroides and the micro-organisms that cause hemorrhagic lesions (hog-cholera, swine plague, pneumo-enteritis of swine, etc.) there are certain points of resemblance. This family of microbes is, in fact, so extraordinarily pleomorphic in character that the members of

[1] MEDICAL NEWS, September 9, 1899.
[2] MEDICAL NEWS, September 9, 1899, p. 324.

it present some points of resemblance with practically every sort of micro-organism. As the result of this they have been the subject of very great, almost hopeless, confusion in contemporaneous bacteriological literature.[1] Even up to the present time bacteriologists have not succeeded in establishing with anything like unanimity characteristics by which they can be definitely differentiated, so mutable are their qualities under varying conditions. To raise this question, as Drs Reed and Carroll insist on doing so obstinately, after all that has been said with regard to the isolation and the thoroughly studied characteristics of the bacillus icteroides, may serve as a sport on which to while away time in a laboratory, but it will never assist medical science in the solution of the important problem of the etiology of yellow fever.

Instead of remaining in Dr. Sternberg's laboratory, ever on the hunt for anything that seems likely to hurt the reputation of the bacillus icteroides, laboriously constructing theories that may destroy its significance, Drs. Reed and Carroll would have employed their time much better if they had followed the very practical example of their colleagues of the Marine Hospital Service, who, in order to make control observations on my investigations, went into parts of the country infected with yellow fever. It is at Havana or in New Orleans that a properly critical judgment on my work on yellow fever can be formed, not in the Army Medical Museum in Washington, and especially not under the direction of Dr. Sternberg, who somehow feels himself forced into the unfortunate position of a man, who, not having succeeded in an undertaking himself, pretends to believe that others cannot have been more acute or more fortunate than he was.

As it is now it will evidently be impossible for Doctors Reed and Carroll and myself ever to come to an understanding. Any *rapprochement* of opinions on our part would seem to be precluded by the persuasion that I can not shake off, that Drs. Reed and Carroll either have not been experimenting with the bacillus icteroides at all, or else they do not know how to experiment.

Certain of the expressions they use in their last article would seem to point very clearly to the fact that their experiments were not done with the bacillus icteroides. They say on p. 327 of the MEDICAL NEWS for this year: "True we did state and we wish here to repeat, that, with one exception hereafter to be mentioned, the fatty change found in the livers of the dogs experimented with is not comparable to that found in the liver of human beings who have died of yellow fever, and we may add that there is an almost entire absence of that necrosis of individual liver cells which is so prominent a feature in the human liver."

I do not wish to fill out a long article with excepts from the opinions of well-known bacteriologists who have recently made series of experiments with the bacillus icteroides. I can, however, say at once without more ado that this opinion of Drs. Reed and Carroll is positively contradicted by the results obtained by bacteriologists who live in countries where yellow fever is endemic, and who are therefore in a much better position to know its characteristic anatomical lesions than are my confreres of the Army Medical Museum. De Lacerda, Ramos, Fajardo, Conto, Mendoza, not to mention others, have carefully studied the pathogenic action of the bacillus icteroides on animals and have become completely convinced of the perfect analogy which exists between the hepatic steatosis produced by this micro-organism and its toxins and that which is found in the cadavers of patients who died from yellow fever.

Doctors Reed and Carroll declare in addition that the bacillus icteroides produces in young pigs the characteristic symptoms and pathognomonic lesions of hog-cholera. But in their experiments done at the quarantine station of the Delaware Breakwater, their colleagues of the Marine Hospital service, Wasdin and Geddings, assert precisely the contrary and declare that young pigs are absolutely refractory to inoculation of the bacillus icteroides. I do not wish to doubt their repeated declarations in the matter nor to discredit absolutely all that they have written, but I am becoming more and more convinced that they have been all the time experimenting with the bacillus of hog-cholera, while they have been as constantly under the impression that they have been experimenting with the bacillus icteroides.

The fact reported by them that my serum causes an agglutination even at very high dilution in liquid cultures of the bacillus of hog-cholera demonstrates absolutely nothing. The phenomenon of agglutination has a value only in certain special conditions, even the serum of the normal horse may possess of itself a very high agglutinative power with regard to certain microbes In place of working with a serum prepared artificially from horses, Drs. Reed and Carroll would have done much better had they followed the example of their confrères in New Orleans—Pothier, Archinard, Woodson, and others. These men demonstrated that the bacillus icteroides is agglutinated only by serum taken either from those who are actually sick of yellow fever, or from those convalescing from the disease. Serum taken

[1] W. Selberschmidt, *Annales de l'Institut Pasteur*, p. 59, 1895.

from such patients, however, they demonstrated to be completely inactive in regard to any appearance of agglutination in cultures of the typhoid bacillus, and especially as far as regards the colon bacillus, although, as is well known, this last is practically the ordinary agent of secondary infection in yellow fever. I think that it is entirely repugnant even to the most elementary common sense to suppose that the specific causative agent of a disease of hogs, which is very well known and widely diffused over the world, should always have been found, precisely and as it were regularly, in the sick and the dead from yellow fever in cases studied at Rio de la Plata, in Brazil, in Mexico, in the United States, in Cuba, and in Europe. The supposition is so paradoxical that, even without the considerations which precede it, it practically is decisive of the question at issue. It suffices by itself to destroy the quaint edifice of theory which has been raised up in opposition to the bacillus icteroides in the laboratory of Dr. Sternberg.

Finally, I must mention that even Wasdin and Geddings have described very exactly the curious and very well known method in which the bacillus icteroides develops when cultivated on agar-agar at different temperatures. While no one among the authorities who have studied accurately the protean morphology of the microbe of hemorrhagic septicemia have ever mentioned anything like it in the cultures of these microbes.

With reference to the last objection, that raised by Dr. Novy,[1] my reply will be very brief. The question of the resistance to cold is one that can be passed over as of very little importance in the face of the clinical demonstration and the bacteriological and experimental observations which attest that the bacillus icteroides is the true cause of yellow fever. I have already shown how it is possible that an epidemic of yellow fever may become extinguished at the approach of winter, without it being necessary to admit for this reason that its specific causative agent is destroyed by cold. But if Dr. Novy once concedes that the germs of yellow fever can live even during the winter time in clothing, or in the interior of houses, etc., he must admit that the supposition that they always perish because of cold is theoretically undemonstrable. As a matter of fact every time that an epidemic of yellow fever recurs in the same place in which it was raging before an interval of cold, it can be said that while the germ of the disease has perhaps failed to retain its vitality on the streets and in the open places generally, it has been protected from the effect of the winter temperature in houses, in clothes, and clothing, etc., so that the problem becomes practically insoluble. Dr. Sternberg[1] himself has written: "It is claimed that the epidemic of 1897 in the City of Memphis was not due to a new importation but resulted from the liberation of germs in houses that had become infected during the epidemic of 1878." For cholera also the same law seems practically to hold good. It has often been noted that cholera is more apt to continue during the winter than yellow fever. This is certainly due to the fact that the bacillus of cholera is less fastidious than the bacillus icteroides, either as regards the kind of nutriment it requires, or the conditions of life and of development which it demands. With reference to the other objections urged by Dr. Novy it is not worth while to discuss them in detail. They have an importance entirely secondary, and would, besides, lead to an interminable discussion. The scepticism which Fraenkel expresses with regard to the yellow fever in certain synthetic writings of his cannot be considered to have more value than as a platonic expression of doubt. He does not present the slightest scientific basis to support his gratuitous opinion. In Germany they are a little too much accustomed to very legitimate and very praiseworthy triumphs of German science. They do not easily admit, without a good deal of preliminary delay and restriction, that bacteriologists in other countries may also be able to make genuine bacteriological discoveries.

As to the doubt expressed by Thoinot, it falls practically into the same category. There is, however, one aggravating circumstance in his declaration of opinion. He makes a comparative review of my first monograph on the subject, and that of the well known Dr. Havelburg, but he does not realize that this last is the most ridiculous, most puerile contribution to the contemporaneous literature on yellow fever that has ever been made. He makes abstracts from both works with evident good faith, and makes it clear that he is not gifted with a very highly developed critical sense.[2]

Finally, I wish to correct an inexactitude into which Dr. Novy has fallen. The antitoxic serum

[1] MEDICAL NEWS, September 23, 1899.

[1] "Report of Yellow Fever," p. 49, 1899.

[2] Dr. Havelburg made his experiments by inoculating directly under the skin or into the peritoneal cavity of guinea-pigs the intestinal contents, or the black vomit, of patients sick with yellow fever, or these same substances obtained from yellow-fever cadavers. The guinea-pigs very naturally died almost at once of septicemia, and Dr. Havelburg had the good fortune to succeed in cultivating immediately, and in pure culture, from the heart's blood of these animals, the true specific bacillus of yellow fever! It is useless to add that this extraordinary bacillus had the unfortunate property of behaving itself entirely and under all circumstances just as does the most classic of colon bacilli. In 1897 it might have been possible for a writer to be still somewhat in doubt with regard to the results of my experiments, but surely he should not have been so ingenuous as to take seriously the windbag that issued from Dr. Havelburg.

used by Dr. Foa in his experiments was not always prepared by him, but is the same as that which I prepared and used in my experiments at Montevideo before any one else. I have never ventured myself to declare positively that any anti-amaryllic serum was endowed with antitoxic properties, since I never succeeded in gathering sufficient evidence of that fact to satisfy myself. I was very willing, however, that Professor Foa should attempt to demonstrate it, and very glad that he succeeded.

This fact may serve to prove once more that in all of my work on yellow fever I may, perhaps, have committed faults by excessive reserve. I certainly never did so by making imprudent affirmations with regard to facts of which I was not sure or had not carefully demonstrated. I flattered myself with the thought that my inevitable adversaries would adhere to the same system. It is needless to say that I have in this suffered from a profound delusion.

It may be that there are still intelligent medical men who think that more light is needed on the etiology of yellow fever. For myself, I must say that very few etiological problems have been robbed of their mystery and demonstrated with as much clearness and rapidity as this one. May I add that no work of serious importance so conscientiously performed as was this one has ever been the subject of criticism so superficial and withal so obstinate as my research on yellow fever has called forth.

SOME PECULIAR PHASES OF TYPHOID FEVER.[1]

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The number of papers promised upon typhoid fever in its different aspects has led me to limit myself in time and subject. I have thought that a brief notice of some of the peculiar aspects in which the disease has at times been observed might be of interest. So far as I can learn, one of the effects upon the nervous system must be very uncommon in this country. It has been my good or bad fortune to meet three cases of tetany developed in the course of typhoid fever. I have made brief mention of two of these in the discussion of the paper upon tetany read before the Association of Physicians, by Dr. F. C. Griffiths, and published in the "Transactions," vol. ix. Those two cases related, the one to a male patient seen at Bellevue Hospital, and the other, a lady seen in consultation with Drs. Dennis and Garmany. In this latter case the disease formed a distressing and embarrassing complication, for the rigidity involved not only the extremities but also the jaws. The feeding, in consequence, became a matter of considerable difficulty. She recovered after a protracted sickness. The third case I saw in the spring of this year in consultation with Dr. Manges of this city. This patient was very ill and suffered with marked tympanites at the time of the development of this complication. He died as a result of perforation of the bowels, his condition at the time forbidding recourse to a laparotomy for the cure.

It is possible that some have encountered cases of this nature, but have considered them rather as instances of marked muscular rigidity than as tetany. Dr. Manges has told me of his intention to publish this last case, and that in written communications which he has had with different physicians of large experience in typhoid fever in this country he cannot find one except myself who has happened to encounter it complicating typhoid. Should any desire a good account of tetany, I would refer them to the masterly article by Trousseau in his work on clinical medicine, though the therapeutics have changed, and to the additions in the works on nervous diseases published since that date, Trousseau, you will find, speaks of its occurrence rather after than during typhoid. At times, moveover, probably owing to individual idiosyncrasies, the mental state is rapidly altered in typhoid fever, so that patients are supposed to suffer from mania or melancholia, or possibly from puerperal insanity. It has been my fortune to witness patients in the early state of typhoid fever where the question of the first mentioned condition was entertained, instead of the disease which had initiated the phenomena through its influence upon the system. A careful study of the physical state of a patient on more than one occasion should prove to a careful observer such associations with perverted mentality as would prevent the diagnosis of insanity. Nevertheless I have in the past seen patients sent to the reception hospital for the insane who had fever. Such psycho es should be considered totally apart from the delirium proper of the disease, which occurs toward the late period of the illness, and in fact they need a different method of treatment.

Allied to this mental state is also the suicidal tendency which at times is developed in typhoid fever. Such complication may apparently come out of a clear sky, but it should be kept in mind as a possibility and guarded against if the least suspicion of its approach arises; for no more sad affliction can befall the friends of the patient. It would be a wise rule never to leave a delirious patient alone, never

[1] Read at the Sixteenth Annual Meeting of the New York State Medical Association, held at New York, October 24–26, 1899.

to have windows, more especially if on an upper story, so arranged that the patient can get out, and never to have pistols, razors, knives, etc., in such proximity to a feverish delirious invalid that he could readily use them should an insane impulse seize him. It is not enough to have an order given that the attendants shall not leave a patient under these circumstances, but to provide such accessory help as shall make it possible that the rule shall be enforced.

I should like also to speak of two eruptions which have had considerable interest for me in typhoid fever. Herpes labialis is of such extreme infrequency in typhoid fever that its presence in a suspected case makes me carefully revise the diagnosis. On not a few occasions, when I have noted it in cases which I had been told were probably typhoid fever, has its presence seemed to make me give to the case a more than ordinarily rigid examination. This has resulted in usually discovering a hidden pneumonia, cerebrospinal meningitis or malarial fever as cause instead of typhoid. Herpes is not impossible in typhoid, but improbable. For a considerable period I had seen a number of cases of typhoid without encountering a petechial eruption as a complication and had felt inclined to say that it did not occur. Later I was obliged to admit its occasional occurrence in the late stages of the disease. The following illustration will, perhaps, show the want of foresight in making a too dogmatic assertion. At a time when some typhus fever was prevailing in New York, I saw in consultation, in the early period of his illness, a young man with a serious fever; as yet it was not possible to name it unless I had chosen the method of Chambers and dubbed it typhoid fever. I told the physician in attendance that taking all the conditions into account it would in all probability be typhoid, but that if a petechial rash should develop in a few days we would be obliged to consider it typhus fever. A little later I was asked to come again as a petechial rash had been observed. To my surprise, however, I found that a catarrhal jaundice was present as a complication, and with this he had developed an erythema, in the center of the patches of which, in not a few places, were petechiæ. There was not the rash characteristic of typhus. All the phenomena at that time, and the subsequent course sustained the diagnosis of typhoid fever. Again toward the end of typhoid fever hemorrhagic tendencies may develop and petechia occur. The strangest aspect I have seen produced is that which may develop under the coils of the cold water tubes, if such are too continuously applied to the abdomen in these cases. Wherever the coils have lain a thickly set crop of petechia may be present with intervening sound skin producing an appearance of circular rows of blood extravasation. I might add that when these hemorrhagic tendencies occur I have found the tartrate of iron and potash of service.

The onset of typhoid fever in women during the puerperal period has been in my experience a source of serious anxiety to the physician until the proper diagnosis was established. In one case more especially all the circumstances seemed to point toward septic rather than typhoid fever. A woman was delivered with instruments, by a demonstrator of anatomy, before a class of students in a college amphitheater, and within thirty-six hours after confinement developed a fever. For some days the source of this fever was uncertain, though the complete absence of proof of inflammatory conditions in or about the uterus seemed to warrant the hope that the possibility of infection from the conditions named had made the physician unduly alarmed. The patient became early violently delirious, developed diarrhea, and died of exhaustion. The autopsy showed death due to typhoid fever, and entire absence of inflammatory conditions about the uterus or adnexa. The consideration of this diagnostic problem has been forced upon me six times. In one other the fever developed on the day of confinement, which occurred in the Emergency Hospital of this city.

Another problem will at times occur owing to pain in the right iliac region. Pain and tenderness in this situation may be greater than usual not alone at the outset of a typhoid fever, but also in the early period of a relapse. Thus with fever may occur a possibility of mistake in diagnosis between typhoid fever and appendicitis. In fact, I have met or had knowledge of seven cases in which either the appendix was removed or a laparotomy performed, and the appendix not removed because normal, or the operation proposed in typhoid fever at the early stage or in the commencement of a relapse. Moreover, I have been consulted in one case to decide whether there was typhoid fever or appendicitis in a young woman of sixteen because of chills, fever, and pain and tenderness on the lower right side of the abdomen, which was dependent upon a sapremia due to a retained menstrual flow. Whilst early operation is desirable in appropriate cases of appendix inflammation, it is certainly a great error of judgment to remove the appendix in the early period of typhoid fever because of the liability to diagnostic error, and of the haste necessary to operate in uncertain cases. The study of the history of the case, an examination of the number of leucocytes, a careful physical examination with especial attention to

the size of the spleen and the presence or absence of roseola, will in most cases help in establishing a correct diagnosis. The absence of leucocytosis would favor the diagnosis of typhoid, whilst a decided leucocytosis would be against typhoid fever, as the condition or as the sole condition. Of course, I am aware that in rare instances the appendix may give rise to trouble in typhoid fever. The leucocyte count has helped me decidedly in two cases in this category, though in one I was unable to see the patient until the second day, but had required a count of the white cells while waiting. The twenty-four-hour's delay was as helpful. There was no leucocytosis, and the pain and tenderness had disappeared from the right iliac fossa by the time of my visit. The patient went through a relapse of typhoid fever.

Two conclusions, moreover, have been forced upon me as the result of observing a large number of persons infected with fever in institutions. When the subjects are young and but a meager history has been kept, a simple observation of a considerable number may not enable the medical observer to decide positively whether he has to deal with typhus or typhoid fever, provided that from the knowledge that typhus fever exists in the vicinity he is aroused to suspect it. Again when typhoid fever breaks out in an institution, particularly among young people, a considerable proportion of those attacked will not develop the complete disease. While perhaps the word abort may not be the most correct, it most fully expresses what I have observed in this regard at outbreaks in the Deaf and Dumb Asylum of this city, the Catholic Orphan Asylum, and in another institution. Of a large number becoming sick with much the same symptoms, in as considerable a number as one-half the fever would subside within three to ten days. The observation of this occurrence on several occasions has forced me to believe that we have a typhoid febricula though we are only able to rightly recognize it when a number of others subject to identical conditions become ill in the same way, at the same time, but proceed to the full development of the malady. I have long desired to have such cases tested for Widal reaction, but no opportunity has been afforded. Such a conclusion shows how erroneous is the reasoning of those who at the beginning of a fever immediately dub it typhoid fever and after medication of a special kind claim that the disease was aborted by the measures employed. In the cases of which I make mention Nature was the aborter, if I may so express myself.

This leads me to mention two conditions which are observed occasionally in the early period of typhoid fever. The first consists in an attack of stomach and bowel trouble with fever, or fever without these, which subsides in one to two or three days. This leads the physician to suppose that the case was one merely of some intestinal intoxication, grippe, malaria, etc. But after a short period of time the patient passes into a regular typhoid fever. The observation of cases of this nature each year has led me to feel assured that, directly or indirectly, the typhoid organism has been responsible for such occurrence. So also again at times it will be found that without antipyretics there is a drop of temperture toward the close of the first week or in the early part of the second week lasting for a considerable part of a day. My first attention was drawn to this at a time when relapsing fever prevailed in New York City and I had hoped that a patient who seemed to have typhoid might instead have, owing to this, relapsing fever, but the rise in temperature was present the next day and the case continued as well defined typhoid, terminating fatally by intestinal hemorrhage at the close of the second week. Rarely since then have I met this same peculiarity. Observations of this nature demonstrate the need of continued care where any suspicion exists of the development of typhoid fever.

A number of other conditions suggest themselves as of interest, but I will mention only one other of considerable importance. I advise that in office practice rectal temperatures should be more frequently used not only in the first stage of typhoid, but also in other febrile conditions. The temperature of the mouth may be normal while that in the rectum shows the true condition of affairs. Not a few patients, who come to a physicians office with headache and malaise would be sent home instead of receiving a prescription to relieve an engorged liver, or remove a rheumatic or gouty condition, etc., were rectal temperatures more frequently employed in office practice.

TYPHOID FEVER AS SEEN IN BELLEVUE HOSPITAL.

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In a charity hospital like Bellevue, the patients whom we see come largely from the lower walks of life. A small minority, perhaps, have been in better social conditions than going to such a hospital would imply, but who may have been unfortunate. While, as has been often observed, the most of the cases of typhoid fever at Bellevue come during the months of August, September and October, there are years in which one or more patients suffering

with typhoid fever may be found in every month.

It is always our endeavor to trace, as far as possible, the etiology of every case. This can be done with very little difficulty in the majority of instances, either from the patient himself or from his friends. We are always interested to ascertain if possible if the patient has contracted his illness in the city. In a pretty large proportion of cases we can get a history that the patient has been out of the city for a longer or shorter time, within a comparatively recent period before his attack of illness. Even if the patient has been out of town for a day or a part of a day at a time, we assume an exposure to the bacillus while on such a visit. It is not always possible to obtain accurate information on this point. The patient is asked if he has been out of town during the past few weeks? He will usually answer, no; he has not, but when we come to question him more closely, we find that perhaps he has been out of town for a few hours on Sunday; and this custom of going out of town a part of the day is common, even among the poorer classes. But, in a small minority of cases, we get positive information that the patient has not been off Manhattan Island for months.

It is believed that Croton water is free from the typhoid bacillus. In some instances it is probable that the source of infection is contaminated milk; sometimes perhaps from vegetables or other articles of food; we are even willing to admit that the beloved bivalve may be responsible for an occasional case. With all care and giving all attention to the question of etiology, we are met with the fact that in a certain proportion of cases it is impossible to trace any reasonable etiology.

The cases to which I shall refer were observed in the wards of the Third Medical Division of Bellevue Hospital. This is one of the four medical divisions of the hospital. There were 104 cases with 10 deaths; a mortality of 9.6 per cent. Of these 104 cases the histories of 87 only were sufficiently accurate to make any tabulation. Of these 69 were males and 18 females. The ages of these patients ranged from fourteen to fifty-nine, 17 cases from fourteen to twenty.

(I ought to say that this period is only six years, because patients under fourteen years of age are not taken in the regular medical wards of Bellevue Hospital, but are assigned to the children's wards.)

From the ages of twenty to thirty there were 54 cases; from thirty to forty, 12 cases, and 4 were over forty years of age.

Occupation.—Artisans 14, laborers 20, domestics 12, housewives 8, messengers 11, soldiers 5, students, salesmen, etc., 14, not stated 3.

Social Status.—I group under this head all information obtained from the personal history, the occupation of the patient, the condition in life, the surroundings, the opportunities for obtaining proper food, etc. It is sometimes necessary to obtain this information from friends of the patient.

Poor condition, 28 to 33 per cent.; fair condition, 44 to 53 per cent.; good condition, 11 to 14 per cent.; not stated, 4 per cent.

Necessarily the standard of social status in a charity hospital must be low. These percentages are therefore relative only.

Physical Condition on Admission.—The proportions may be summarized as follows: poor, 24 to 29 per cent.; fair, 35 to 42 per cent.; good, 24 to 29 per cent.; not stated, 4 per cent.

Use of Alcohol.—These may be divided in four groups, thus: abstainers, 34 to 43 per cent.; in moderation, 30 to 38 per cent.; immoderate, 15 to 19 per cent.; not stated, 8 per cent.

Where the statement is made "not stated" either the patient was not in condition to give the history or the friends could not give it.

It will be noticed that the percentage of the immoderate use of alcohol is not high. In almost any other class of cases in Bellevue Hospital, particularly among males, the percentage of those who use alcohol immoderately is very much higher, as is strikingly illustrated in pneumonia, where the percentage of the immoderate use of alcohol is between 60 and 70.

Initial Chill.—Of the initial chill or decided chilly sensations patients are apt to give an indefinite history, but care was taken to get as definite statements as possible. The figures show:

Chills or chilly sensations absent, 35 to 43 per cent.; chills or chilly sensations present, 46 to 57 per cent.; not stated, 6 per cent.

Condition of Bowels.—Diarrhea, 50 to 57 per cent. constipation, 20 to 24 per cent.; regular, 15 to 1 per cent.; not stated, 5 per cent.

The percentages of the conditions of the bowels vary very much in different years. In some years the percentage of patients with diarrhea is very much larger than in others. If there have been more than two movements of the bowels per day the record was made that there was diarrhea.

Epistaxis.—This symptom was absent in 47 cases, fifty-nine per cent.; present in 33, or forty-one per cent., and not stated in 7 cases.

Eruption (Rose Spots).—Absent in 20, or twenty-three per cent.; present in 67, or seventy-seven per cent. This, again, varies very much in different years. In some years the percentage of cases in which the eruption occurs is small; in other years it

is large. In some instances the eruption will be very abundant. There were two cases in which the eruption covered the body to such an extent that it led to doubt as to whether it was the typhoid eruption. One patient in particular looked almost like a child covered with the eruption of measles. The fever ran a mild course in this patient, and he recovered. In another case the eruption was very abundant, and some of the spots of eruption became petechial. This was a very severe case, and the patient died.

Enlarged Spleen.—Careful examination showed it to be absent in 20 cases, twenty-three per cent.; present in 67 cases, seventy-seven per cent. The enlargement was determined by palpation, percussion, or both. In some of the cases patients were brought to the hospital at a stage in the disease when the spleen had diminished in size to normal or nearly so.

Widal's Blood Reaction.—This more recent diagnostic test was absent in 10 cases, eighteen per cent.; present in 49 cases, eighty-two per cent.

Ehrlich's Diazo-reaction in the Urine.—The characteristic reaction was absent in 15 cases, twenty-six per cent.; present in 44 cases, seventy-four per cent. The figures for the Widal-test and the diazo-reaction were taken from the last 59 cases. In 6 cases the Widal test was present, and the diazo-reaction absent, whereas in 5 cases the Widal test was negative and the diazo-reaction present.

Albumin in the Urine.—This was determined to be absent in 26 cases, twenty-nine per cent., and present in 61 cases, or seventy-one per cent. One case of true nephritis was observed.

Relapses.—Relapses occurred in 8 cases, nine per cent.; all recovered. In 1 case there were three relapses; in 2 cases there were two: in the other 5 but one relapse. The duration of the relapses varied from nine to twenty-two days.

Fatal Cases.—Of the 10 patients that died, 3 were laborers, 1 an artisan, 2 were domestics, 1 was a messenger, 2 were housewives and 1 a soldier. Seven were males and 3 females. In 4 the social status was poor, in 5 it was fair, and in only 1 was it good. In 6 the condition on admission was poor, in 2 it was fair, and in 2 it was good.

Complications and Sequels. — In four of the cases there was pregnancy. All recovered without aborting. There was chronic endocarditis in one case with recovery. Pneumonia and nephritis was present in one case. This patient died. In one case there was unilateral parotitis. It was only moderately severe and resolved without suppuration. Laryngitis with edema glottidis was a fatal complication in one case. Double otitis media was present in one case, while in five cases plasmodium malariæ was demonstrated during convalescence. Phlebitis occurred in three cases. In two of these it was single, both on the right side, and both involved the internal saphenous vein. The third case was a double phlebitis, involving the femorals. The patient recovered after a long period of sickness. In none of the cases was there gangrene. There was orchitis in one case. Four patients were addicted to the immoderate use of alcohol, three were moderate drinkers, and two were abstainers. Both of these latter were women. In one of the fatal cases it was impossible to obtain information with reference to the use of alcohol.

I might mention in this connection a case which aroused much interest in the hospital, although not occurring in the Third Medical Division. A patient had had a moderately severe attack of typhoid and had convalesced slowly without any special features, and on the 28th day of his convalescence he was sitting in an arm-chair reading a paper. He had advanced sufficiently to be dismissed from the hospital and was simply waiting until the next day to be dismissed. He got up from his chair, suddenly had a severe pain in his abdomen, fell over in collapse and died in a few hours. The autopsy revealed a perforation.

Cause of Death.—The actual causes of death were as follows: Perforation, 2; pneumonia, 1; excessive high temperature, 2; laryngitis, with edema glottidis, 1; peritonitis, from the officious interference on the part of the house physician, 1. This last case was a very severe one, and had as a complication double otitis media. So far as the otitis was concerned the patient was apparently progressing favorably but had persistent tympanites. The house physician, without consulting the visiting physician, with a hope of relieving this tympanites, aspirated the intestine. The patient promptly developed acute peritonitis and died; autopsy showed the peritonitis as having apparently developed from this puncture. Three died apparently from exhaustion due to toxemia. One of these a woman of fifty-nine—fat and flabby. Decided hemorrhage occurred in only two cases, both in the third week. These patients recovered. Slight discharge of blood occured in several other cases, but not of sufficient quantity to be called a hemorrhage.

The highest temperature recorded was $106\frac{3}{5}°$ F. In another case the temperature reached $106\frac{1}{5}°$ F. Both of these cases obstinately resisted all efforts to reduce temperature. They are the two cases referred to among the fatal cases as dying from excessive high temperature.

Treatment.—Baths were resorted to in 48 cases; drugs and other forms of treatment in 39; the av-

erage number of baths was 20, though they ranged from 2 to 92 in number. In some cases the disease ran such a mild course that practically no treatment was resorted to.

The treatment was usually initiated by a dose of calomel, followed by a saline cathartic. This was, perhaps, repeated during the first week of treatment once in forty-eight hours, depending on the effects produced. Usually after the first week, if constipation was a prominent feature, as occurs in a considerable proportion of the cases, enemas were relied on for its relief. For the relief of the tympanites salol or beta-naphthol were relied on for internal medication. If diarrhea was a marked feature some form of bismuth, preferably the subgallate, was added. For external application for relief of tympanites, hot turpentine stupes or the cold Leiter coil was used. If the patients were seen during the first week and wakefulness was a prominent symptom, with decided delirium, hypnotics were used. These were specially indicated in many of the decidedly alcoholic cases. If the wakefulness was pronounced and headache severe some preparation of opium would answer a better purpose in giving relief. Sometimes the ice to the head was resorted to with relief.

As stimulants, alcohol, in the form of whisky, strychnin, and caffein were relied upon. The last in only a few instances. Only in pronounced alcoholic cases was alcohol commenced early; in the other cases alcohol was resorted to only when there were special indications, as shown in the condition of the pulse and nervous system. Alcohol was not used indiscriminately, but only in cases which specially indicated it. It was used most freely in the cases showing the restless wakefulness of exhaustion, or in the exhaustion of the nervous system or circulatory system. Rarely was it necessary to use more than 6 or 8 ounces in the twenty-four hours. In exceptional cases, perhaps, that was increased to 10 or 12 ounces. The alcohol was stopped as soon as indications for its further use were past. Water was given to the patients freely. Milk formed the main article of diet throughout the course of the attack. Animal broths, well salted, were allowed once or twice a day. In some cases the white of an egg would be added to a glass of milk three or four times a day. In cases of alcoholics, where the gastric irritability was pronounced, and even milk produced disturbance, Vichy was added to each glass of milk in the proportion of 1 part of Vichy to 3 parts milk. In some cases, when the milk was repulsive, koumyss or matzoon was substituted with very satisfactory results. This was the line of diet until convalescence was established, and even then great care was shown as to the giving of solid food. The plan followed was to continue this line of diet for eight or nine days after the temperature had touched normal. I mention this fact because of our unfortunate experience in the attempts to resort to solid foods earlier in convalescence, as is the method followed by some excellent observers.

CLINICAL LECTURE.

VARICOCELE, MOVABLE KIDNEY, MAMMARY CARCINOMA, RECURRING APPENDICITIS.[1]

BY CHARLES McBURNEY, M.D.,
OF NEW YORK.

GENTLEMEN: I wish first to show you to-day two of the patients who were operated on last Saturday. This young man was operated on for the cure of a right inguinal hernia by Bassini's method and for a varicocele in the usual site on the left. The wound made for the radical operation of hernia is doing very nicely and no further comment is required. The varicocele operation has been equally satisfactory in its results. I did in this case the operation which I always now do in similar cases. After incising the scrotum and dissecting out the large plexus of distended veins, two catgut ligatures were placed around these vessels at a distance from each other of about two inches. Care was taken of course not to include in these ligatures the plexus which accompanies the vas deferens. The mass of enlarged veins between the two ligatures was then incised and the ends of the ligatures tied so as to bring the stumps in apposition. A few approximating stitches of catgut were also applied. We find now at the point of apposition an inflammatory thickening. This is a good sign and practically assures the success of the operation. I have never had any accidents with this form of procedure for varicocele and recurrences in my experience are practically unknown.

After his getting up, which I shall allow in about two weeks more, I shall not ask the patient to wear any supporting apparatus for his hernia. He may go without a truss. I shall, however, recommend him to wear a support for his testicles for two or three weeks in order to prevent the stretching of the recently united tissues.

MOVABLE KIDNEY.

The patient who was operated upon last Saturday was a young woman who had the typical symptoms of a movable kidney. There was almost continuous abdominal discomfort that at times became positive pain. There was persistent gastric disturbance, with nausea and loss of appetite, and there was constantly recurring headache and a readily movable tumor, evidently the right kidney, could be felt in the right loin. In the operation that I have found of most benefit in these cases, the only one in fact which seems to secure the patient against relapses, the incision is made, as in this case, parallel to the last rib and about one-half inch below it, here in the lumbar region. The incision is carried down to the perirenal fat, which is

[1] A clinical lecture delivered at the Roosevelt Hospital.

notched with scissors and then torn open, exposing the kidney in its capsule. The capsule of the kidney is split and stripped off from the organ for some distance; its cut edges being fastened to the deep edges of the muscular wound. The wound is then packed, the gauze being carried down to the kidney itself. The plan is to prevent union of the external wound by first intention and to set up a certain amount of irritation, that will cause the formation of new connective tissue around the kidney, and so fasten it to the abdominal wall. When we remove the gauze here, you can see the kidney very plainly at the bottom of the wound. Normal aseptic granulation tissue can be seen covering the exposed surface of kidney. Instead of moving up and down in wide excursions with the respiratory movements as it did before the operation, and as is usual with movable kidney before adhesions are formed, it now lies motionless. The patient of course will be kept as quiet as possible for about three weeks longer, when the adhesions will have become very firm. The external wound will then be allowed to close and I do not expect the patient to ever have further symptoms due to mobility of this kidney.

This operation is very safe. I have never had an accident with it, and I think it can be recommended with the perfect assurance that it will not give rise to any serious complications. These cases of movable kidney can be radically treated only by means of an operation similar to the one described. Since I did this operation I have seen a young woman who has suffered for nineteen years with aggravated symptoms of movable kidney. In her case the mobility of the kidney is due to a series of violent falls occurring at the age of seven years. It is very unusual for movable kidney to develop at so early a period, and only some uncommon cause could have led to it. In this case I assured the patient that practically all of her symptoms could be removed by the operation, that there would be very little risk, if any, and no danger of return.

CANCER OF BREAST.

Our next patient is a woman forty-three of age, who has had four children and who noticed a feeling of discomfort in her left breast about a year ago. This has gone on increasing. Examination disclosed the fact that there was not much pain, though there was some tenderness. The entire breast was densely indurated. The nipple was much retracted, dragged down into a deep furrow in the skin. Further examination showed that there were a number of enlarged glands in the axilla, though none could be found above the clavicle. In the skin around the nipple certain nodules, shot-like in character, could be felt. These signs taken in conjunction with the history permit one to make an absolutely positive diagnosis. We have to do here with a fibrous carcinoma of the breast.

Suppose we first ask ourselves what would be the natural history of the case if it should be left untreated. There is no absolute law by which we could foretell what length of life would be left to the patient, nor just what course the cancer would take in its development. It is certain, however, that the disease inevitably progresses, and that the fatal termination would come in two or three years or less. In the meantime she would suffer a great deal from pain and mental distress, with disability of the arm and internal complications. Even if we forsee that operation is likely to be only palliative, it is still indicated in these cases. When we cannot promise a cure we can at least assure amelioration of the patient's condition, and some hope even that recurrence will not take place. We can never assure our patient's that operation in any given case will be followed by positive cure. Even small malignant tumors may already have given rise to metastases, which will later lead to inevitable diseases.

The characteristic of carcinoma which is most important is its tendency to disseminate itself through the body, making use for this purpose especially of the lymph channels. Because of this peculiarity a carcinomatous process very soon finds its way from the breast itself into the lymph passages leading from it, and at an early date is found in the lymph glands of the axilla. In a very large percentage of cases axillary involvement occurs very early. At a later stage the supra-clavicular glands become diseased. In certain cases the pectoral muscles are involved or the pleura is attacked. The lymphatic tissue in the anterior and posterior mediastinum may become infected. From here involvement of the viscera readily occurs.

These considerations modify the prognosis to a very great degree, so that practically in no case can we positively promise a radical cure. We are, nevertheless, usually able to afford a great measure of relief to certain annoying symptoms. We can, for a time at least, lift a load off the patient's mind, and in many cases by prompt and thorough work produce a radical cure. Our recognition of the methods by which carcinoma disseminates itself has led to marked improvement in these late years in the methods of operation, and this has largely increased the number of radical cures. It is, of course, an extremely unfortunate situation when the patient comes to us at a time when so much dissemination has already taken place that the hope of eradicating the disease and its outlying processes in the lymphatics is almost surely at an end. Yet even in these cases we can afford our patients so much relief that operation is usually indicated.

There is a period in every case of carcinoma when the affection is absolutely local. If all patients could be operated upon during this period the statistics of the results would be totally different from what they are. The sooner that operation is done after diagnosis is assured the better. The conclusion that must be especially impressed upon you is that the very earliest symptom of a possible cancerous growth must not be neglected. A positive diagnosis must be made either from physical signs, or from a microscopic examination after excision of a portion of the tumor. If this were done in every case we would not have to bewail our ill-success in operations for mammary cancer, and the statistics of our radical cures would rapidly improve. Unfortunately there is often some member of the family, sometimes the patient, sometimes even the family physician himself, who is ill-

advised enough to consider very early operation unnecessary. When this impression has been gotten rid of, the death-rate from cancer will notably decrease.

The operation for cancer must be planned with the recognition of its tendency to dissemination always in mind. Not only must the original tumor be removed, but also as much surrounding tissue as is possible without too great danger to life or too serious disability from mutilation. The lymphatic channels must be carefully followed and as far as possible thoroughly eradicated. This makes a large dissection necessary, but it is perfectly justified by the gravity of the condition and by the fact, now so well known, that this is the only course which gives any hope of permanent freedom from recurrences.

The incisions should be so arranged as absolutely to remove all skin overlying the tumor which could have been infected from the cancerous growth. In this case we have nodules of cancerous tissue in the skin to emphasize the necessity for this, but even in cases where such appearances are not so manifest the rule with regard to the removal of suspicious cutaneous tissue must always be borne in mind, for it is in the skin especially that recurrences are prone to take place. In making the incision and in removing the portion of the skin overlying the tumor, no regard should be paid to the fact that the skin-edges may not come together when the operation is over. This question is of very secondary importance.

As we know that the axillary glands are involved we shall remove all the connective tissue and all tissue containing lymphatic structures in the axilla. In order if possible to avoid the danger of recurrence from backward extension of the cancer we shall remove a large portion of the pectoralis muscles. To do less than this would be to do injustice to our patient. If we were to do more there would be first the risk from the seriousness of the operation and then the deformity from the mutilation and consequent disability. There are good reasons for limiting the operation to the tissues indicated. It seems but just to say that with this extensive operation for mammary cancer, which of late years has become so popularized, the name of that distinguished surgeon, Halsted of Baltimore, is intimately associated. He not only devised and developed the operation on scientific principles, but showed the profession the benefits that might be obtained from its application. To those of you who have never seen the operation before it may seem to involve too extensive dissection and mutilation. But if you should see the patient later on, you will find, first, that the recovery is rapid and is usually without incident; and, secondly, that the disability resultant from the removal of so much tissue is extremely small.

The incision that I make is carefully directed so as to avoid the leaving of a scar across the axilla. In the older operations for removing the contents of the axilla in cases of cancer in the breast, this scar was very prominent. Its contractile nature caused the tissues here to pull together, and interfered with movement of the arm. Instead of carrying the incision upward into the axilla it is directed more toward the end of the clavicle, and then is carried somewhat down the arm. It follows in general the line of the pectoralis muscle. When the upper flap is dissected back it is easy to make a very thorough exposure of the upper part of the pectoralis major muscle. When the lower flap is dissected back to the posterior line of the axilla it is possible to open up the entire axillary space very thoroughly and without difficulty. This lower flap is made as thin as it can be without risking the vitality of the skin. If it is allowed to be too thick there is risk that cancer nodules from the axillary tissues may be included in it, and recurrences will be inevitable if the slightest bit of cancerous tissue is allowed to remain. Between these two extremes of a thinness which might be insufficient to nourish the cutaneous tissues, and so lead to gangrene of the skin, and a thickness that might risk the leaving of even a single cancerous nodule, the surgeon's experience must guide him.

As we dissect backwards here we begin to see the edge of the teres major muscle. This shows us that we have gone far enough in this direction. We make the incision well down to the layer of muscles. The pectoralis major and serratus magnus may now be seen uncovered at the bottom of the wound. It is necessary to go at least as deep as this. A very important part of the operation consists in guarding as far as possible against blood loss at this stage. I have never had a death from this operation, and it is always well borne, even by those who are not in very robust health. There are, however, a number of blood-vessels here in the deeper part of the wound which require to be carefully ligated. In dissecting back the upper flap it is advisable to keep as far away from the breast as possible so as to avoid leaving any cancerous tissue behind. Lymphatic ducts and glands at some distance from the breast are very liable to be affected. To leave any of them means inevitable recurrence.

The advantage of the incisions which I have made will be seen, especially when we come to the direction of the axillary space. By the old method, with the incision straight across the floor of the axilla, axillary tissues could be removed, but their complete exsection was practically impossible. We have here at the upper angle of the wound the clavicular fibers of the pectoralis muscle laid bare. If we pass our fingers beneath these fibers we can cut through the muscle without danger, and when we do so the axillary space is laid open for a thorough dissection. We have the fascia underlying the pectoralis muscle still covering the contents of the axilla. This is carefully divided and the deep dissection begun. The axillary vein can be seen very plainly, and one should be specially careful of it. It forms the outer limit of the dissection, and in general all tissues inside of it must be taken away except certain nerves, which, because of their functional importance, we shall try sedulously to preserve.

At this stage of the work a number of pectoral branches of the veins and arteries are met with. Like all vessels situated somewhat deeply, these are very delicate and easily torn and they should be tied as soon as they appear. Now the pectoralis minor muscle comes into view and this is also divided, as doing so makes it much easier to get at underlying tissues. Dissection beneath the

muscle without section of it would be an imperfect procedure and one could not be sure that all infected tissues were removed. Thorough removal of such tissues is the one thing absolutely necessary.

It would not do merely to cut and seize with clamps the mouths of bleeding vessels at this stage of the operation and then let these lie as we do with the vessels nearer the cutaneous surface. All small vessels which lie deep in the tissues as these do, are, as I have just said, very delicate and easily torn. If clamps were allowed to hang on them, either the vessels themselves would tear or perhaps a hole would be torn out of the side of one of the main veins. This is, of course, an extremely undesirable complication and one that might have serious consequences. It occupies some time to pass an aneurism needle beneath each of these vessels and tie it before cutting, but it is very important that this should be done, as loss of blood is avoided, which is a most important consideration, especially in prolonged operations.

It is at this stage that we must look for certain important nerves. I have here the long, subscapular nerve, which supplies a very important muscle, the latissimus dorsi, and the nerve must be spared in order to preserve the function of this muscle. I clean the nerve thoroughly, remove all the connective tissue lying around it, but leave the nerve itself uninjured. I have now removed in one mass the entire contents of the axilla excepting the large vessels and nerves, and you can see here the bare surface of the serratus magnus muscle. After this we work toward the breast and continue to turn back, farther and farther, the pectoralis major and minor muscles. I remove the whole breast with the fatty tissue lying around it, the skin above it, the two pectoralis muscles, and all of the axillary contents. I do not cut the sternal attachment of the pectoralis major muscle close to the bone and intercostal spaces for, if I did so, the perforating branches from the internal mammary artery would be severed so close to the intercostal membrane that it would be very difficult to ligate them. It is best, therefore, to sever the muscle on a line about ½ inch distant from the muscular attachment to bone. The perforating vessels are thus cut quite long enough to permit of satisfactory ligation.

While it is not essential to drain these cases, I have always considered it advisable to leave a drainage tube in the wound for twenty-four hours. Not that I feared infection, but there is often some accumulation of blood. Tension is relieved, a very suitable culture medium for micro-organisms is removed, and the healing of the wound is favored. Besides this after the first sutures have been put in a thin strip of gutta percha tissue is inserted at each angle of the wound. While the wound would heal very well with only these interrupted sutures, it heals very much better, more evenly and more quickly, if the skin edges are carefully brought together by an apposition suture throughout the entire length of the wound. I must insist once more that the mere closure of the wound after operation is a very secondary consideration and not to be weighed at all in comparison with the desirability of getting rid of a possible focus of disease which may exist in the skin. If a single cancer nodule is left in the cutaneous tissue it will be prone to develop into a serious lesion.

You have seen how much muscle has been removed in this case, and you probably think that considerable disability will result. If you should see this patient a few months from now you would be surprised to find that the movement of her arm, will be quite as good as that of the other. The clavicular fibers of the pectoralis major muscle and the anterior fibers of the deltoid are quite sufficient for function. Even the deltoid alone will suffice to accomplish these motions and I doubt that you would be able to distinguish by ordinary functional tests from which side the muscles were removed.

In dressing the wound a very efficient bandage is this many tailed bandage which we use here. It is similar to an ordinary many-tailed bandage with a wide, firm piece at the back, and then two tails that go over the shoulder from the upper part of the wide back-piece and one from below which comes up over the arm below the elbow. This secures the arm very completely to the body and effectually prevents all motion during the early days after operation.

RECURRING APPENDICITIS.

The next patient is a boy of eleven years, who has had several attacks of illness with a very definite set of symptoms. These symptoms were very characteristic. Severe abdominal pains were complained of during the first few hours of each attack, and at the end of about twelve hours the pain became distinctly localized in the right iliac fossa. Each attack was accompanied by some nausea, by fever, and by heightened pulse-rate. He had his first attack several months ago and recovered completely from it. But afterward he had a series of recurring pains mainly referred to the right iliac region. After about three months he had a second severe characteristic attack.

This boy first came under my observation about ten days ago, on the second day of his last attack. His fever on admission to the hospital was 102.8° F., his pulse-rate 124, and when he came here the pain had already become localized in the right iliac fossa. Excessive tenderness was noted at a point about midway between the umbilicus and the right anterior spine. I had no hesitation in diagnosing the case as appendicitis of that type which is known as recurring appendicitis.

The important question on his admission was, will this affection be progressive? was the inflammatory process likely to increase until a collection of pus had formed, or was there a reasonable hope that this attack would terminate as the others had done? These questions were not easy to decide. There are no general rules to guide one at the beginning of an attack of appendicitis in making the differential diagnosis between a case that may get rapidly worse and one that may rapidly subside. Needless to say, the question is a very important one for the patient and also for his attending physician. A practical decision must be made soon, and I find this about my own rule of practice. If the pain, vomiting, fever,

and pulse rate continue to increase, or even remain unimproved for more than one day, or if I judge from my experience of such cases that the future behavior is very doubtful, I operate as soon as I can obtain permission. If at the end of twenty-four or thirty-six hours there is some remission of symptoms, then I prefer to wait further developments. Not that there is much more danger in operating in acute cases, though it must be admitted that there is some more. In the acute stage, however, we are obliged to make use of an inferior method of operation. We are not able to benefit the patient as surely and as effectually as when there is no danger of the acute localized process becoming generalized by our manipulation.

In this case I concluded that the symptoms were not over-active, the general appearance was not that of a patient seriously ill, the pulse was encouraging on his admission, and so I decided to wait. On the next day the fever had subsided. The following day he felt still better, and to-day you would say that there was nothing the matter with him, and you would only find on rather deep palpation some tenderness in his right iliac fossa.

The subject of appendicitis is too large for me to discuss all its features to-day, but I wish briefly to dwell upon certain practical questions that are of especial interest. First, as to the reason for operating at all, and, secondly, as to when operations should be done in such cases. The fact that a patient has recovered from an attack, or even from numerous attacks, is no guarantee that he would also recover from the next one. There is no assurance in the past for the future. A mild attack may be followed by a very severe one. On the other hand, a severe attack may not be followed by one that is more severe. Occasionally a patient will have one attack, then never have another. A patient may have two or even three attacks, and yet never have another. The occurrence of one indicates a liability to further attacks of the disease, but absolutely gives no definite information in any particular case. The next attack in any patient may prove fatal. Usually succeeding attacks are at least not milder than those that have preceded them. A patient with a damaged appendix has no assurance from attack at any time, and a fatal termination is at least possible.

Under these circumstances the only valuable treatment of the condition is the surgical one. No medical treatment will influence the condition of the appendix in the slightest degree. The diseased organ must be removed on the same principle that a poisonous foreign body should be removed from the body without waiting for it to give rise to general sepsis. The patient must not be advised to wait and see what will be the nature of succeeding attacks. Certain contraindications to the operation do exist. If the patient is very weak or very old so that he will not stand operation well, or if he is very fat, and these conditions would add materially to the difficulties to be encountered in the operation, then, perhaps, operation might be considered more dangerous than the disease. Such cases will rarely be found.

Now as to the character of the operation. Wherever we remove septic material from the body we close up the cavity in which it has been contained only if we have been able to render the cavity perfectly sterile. We close up an abscess, for instance, only if we feel sure that we have dissected away the whole abscess wall. This is evidently impossible in the case of the peritoneum. Hence drainage becomes a necessity. If we employ drainage this leaves a weak spot in the abdominal wall. The granulation tissue that forms under these circumstances has not the strength of the ordinary tissues of the abdominal wall, and will yield to intra-abdominal pressure, and a hernia will result. This danger is always to be feared if we perform the operation in the acute stage. When our manipulations have included a part in which there has been for days before an acute inflammatory process we do not care to completely close the wound. The risk is too great. This is what we would have had to do had we operated on this little patient a week ago. Now, as you will see, we can very easily and effectually avoid this danger.

We make our incision through the skin in a direction parallel to the fibers of the external oblique aponeurosis. This structure is not to be cut, but one should split it and separate the edges of the opening. We then cut the muscular fascia lying above the internal oblique muscle and separate its fibers. The transversalis fibers here run nearly parallel to those of the internal oblique and these also are to be separated. It only remains to pinch up and divide the fascia transversalis and the peritoneum. By this method we have cut no important structures in the abdominal wall and have not weakened its resisting power. After cutting through the peritoneum we come upon the caput coli. As I do not care to make unnecessary manipulations I prefer not to insert my finger and feel about for the appendix, but gradually draw the cecum into the wound when the appendix will soon come into view. I do this, as you notice, cautiously for there may be slight inflammatory adhesions which it would be undesirable to tear. Here I have come upon the base of the appendix. I find in the organ evidence of a comparatively recent inflammation. There is a marked engorgement of the peritoneum covering it and some delicate adhesions due to only partially organized lymph on its exterior.

I now divide meso-appendix, tying it off in sections in order to avoid bleeding. The history of the case would lead us to look for some lesion either within or without the appendix that had lessened the caliber of the organ. There were well-defined symptoms in the recurring attacks of a spasmodic condition such as would be set up by some diminution in the lumen of the appendix and the collection of material behind it trying to force its way out.

The stricture in the appendix may be due to the formation of new connective tissue as in the urethra. This new tissue is under practically similar conditions, or the narrowing of the lumen may be the result of some distortion of the appendix from an external cause. The stricture causes symptoms because beyond the narrowed part either an accumulation of feces occurs, or in the detained fluid of the appendix infection takes place and bacteria develop. After this pressure symptoms progress.

When the bacteria increase in the retained substances there is an absorption of septic material and this causes the constitutional symptoms of the disease. The pain and the tenderness which usher in an appendicitis are due to the rapid development of septic material and the spasmodic contraction of the organ in the attempt to get rid of it. In cases that get well spontaneously the accumulated material forces its way out into the intestine and the remission of symptoms occurs just as soon as evacuation has taken place. A locus minoris resistentiæ is left in the appendix, however, and in addition the original stricture remains so that attacks are liable to recur. Finally a time comes when the material imprisoned in the appendix cannot force its way into the cecum and then there is rupture of the appendix, or necrosis, because of interference with the blood-supply, by pressure of the accumulated material, and involvement of the peritoneum is the result.

In order not to leave any mucous membrane projecting into the peritoneal cavity, which would be dangerous because of its liability to retain infectious material and so infect the peritoneum, we invert the appendix into the cecum and bring the peritoneal surfaces together above it. In order to do this easily we dissect up a cuff of peritoneum and cut the fibrous and muscular coats of the appendix at a lower level, *i. e.*, nearer the bowel. We now test the permeability of the small stump that is left in order to be sure to leave no stricture between the amputated end and the cecum. The probe passes easily. With a purse-string suture we now gather up the wall of the cecum. I always invert the appendix into the cecum. For this purpose I use the little instrument that you see here, which has a shoulder on it. As I push it in, it inverts the stump of the appendix and I am able to draw it out leaving the appendix as a small projection on the inside of the cecum. I now pull the purse-string suture taut and tie it, leaving only a puckered spot where the appendix was. This I consider the best way of disposing of the appendix, and I acknowlege my obligations to Dr. Dawbarn of this city who devised this very ingenious and useful method.

I now close the incision, first suturing the peritoneum and fascia transversalis very carefully. The rest of the wound might really be left to take care of itself, but I draw the muscular fibers somewhat closer together than they would otherwise fall and retain them in this close apposition by a few sutures. I put some sutures also in the aponeurosis of the external oblique muscle. It is very interesting to see the condition of an opening like this, if nausea occurs during the operation. Ordinarily there is pouting of an abdominal wound under such circumstances, but when the opening is made like this one, all of the muscular fibers surrounding it contract and instead of pouting and opening up there is contraction and the opening in the abdominal wall is shut up tight.

I shall now open this specimen, which has been removed in order to demonstrate to you the condition that exists in it. I try to pass a probe and find that it meets with resistance a little beyond the middle of the appendix. Careful, gentle manipulation of the instrument, though continued for some time as you see, fails to get us beyond this point. I now carefully open up the appendix as far as the probe penetrated and can demonstrate to you the stricture that exists. Even now I am unable to pass the probe. Taking a finer instrument I succeed with the aid of vision in getting it past the obstruction. The stricture though tight is still permeable and thus accounts for the remission of the symptoms in the last attack which took place. I now open up the appendix beyond the stricture and find the lumen greatly dilated and containing some dirty purulent fluid which is undoubtedly septic and which would doubtless prove on careful investigation to contain dangerous micro-organisms. When I now cut through the stricture itself, you can see that we have here a very perfect example of a stricture of the appendix which closely resembles a stricture of the urethra. The lesson is a most interesting one and the demonstration of the specimen should, I think, prove to conviction what the pathological lesion is in many cases of recurring appendicitis and how inevitably necessary operation becomes sooner or later.

CLINICAL MEMORANDUM.

LARGE PERINEURAL FIBROMA INVOLVING THE ENTIRE SCIATIC NERVE-SHEATH.[1]

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THE following unusual case of a large perineural fibroma involving the entire sciatic nerve-sheath and deep femeropopliteal fascia appeared of especial interest to me from the fact that extirpation of the tumor and popliteal vessels was performed, leaving the sciatic nerve uninjured, *in situ*, and recovery took place, with the loss of only the toes and heel-covering from sloughing.

The patient, C. B., a light mulatto, was a native of Louisiana, aged twenty-two years; a steamship waiter by occupation. He was distinctly tubercular on the maternal side. His personal history was good as far as habits and previous diseases were concerned. There was no history of traumatism, nor other conditions that might suggest a cause of the present trouble. He was admitted to the Charity Hospital of New Orleans, April 1, 1898, for the relief of a large tumor of the right lower limb, which had gradually developed since the age of twelve (ten-years' duration). The patient was pale, anemic, marasmic from prolonged inactivity, indoor life, and bad hygienic surroundings. He had been losing flesh progressively, and now weighed only 120 pounds, notwithstanding his height which was six feet. The large size of the right lower limb was striking to the eye on account of its great size, markedly contrasting with the opposite member which was thin and atrophied. (See Fig. 1.) The affected limb was enlarged from the lower gluteal fold to the toes. The enlargement was most marked posteriorly, where it projected in prominent relief

[1] Preliminary report presented to the American Surgical Association, annual meeting held at Chicago, May 31, 1899.

from the femoral, popliteal, and crural regions. The tumor increased progressively in size from the tuberosity of the ischium to the center of the popliteal space, where it attained its greatest dimensions, and from this point again decreased until it reached the malleoli. The leg and foot were cylindrical in outline, the normal contour of the ankle having been obliterated by edema which was evidently caused by mechanical compression of the popliteal vessels. The tumor originated primarily in the popliteal space as a slow, indolent, hard, painless swelling which in no manner interfered with the function of the limb until three years ago, when it filled the space back of the knee so completely that flexion was impossible. About the same time it was noticed that the growth had extended up the thigh and down into the calf, but it was not until one year later that edema and weakness of the leg began.

The actual length of the growth as it was felt through the skin was 42 cm. (17.5 inches), and it extended distinctly along the sciatic tract from the tuberosity of the ischium to the middle of the calf. It projected behind the popliteal space from one hamstring to the other, 21 cm. (9 inches). The circumference of the affected limb around the knee was 49 cm. (19.5 inches); of the sound limb 36 cm. (14.5 inches). The same proportional difference was observed in comparing the normal and affected

FIG. 1.

limb at various points in the circumference of the thigh and leg

The skin overlying the tumor was thin, adherent, fixed, and immovable; the underlying mass was hard and nodular, especially in the popliteal space and calf. There was no pain on pressure or spontaneously. There was some edema in the skin of the leg, and a small superficial ulcer above the ankle; no trophic lesions or disturbances

FIG. 2.

Perineural fibroma of the sciatic, involving the femoropopliteal space.

of sensibility could be detected in the foot or leg. The neoplastic area was defined externally by a line drawn from the great trochanter to the external condyle of the femur and middle of the fibula; internally by a line from the tuberosity of the ischium to the internal condyle and middle of tibia. Scarcely any motion was obtained by manipulation, the growth being very deeply rooted to the posterior ligament of the knee, sural and hamstring muscles, and periosteum of the femur.

A cubic fragment of tumor was removed from the popliteal space under cocain anesthesia, and the diagnosis of pure fibroma was established. On May 18, 1898, the tumor was extirpated, *en bloc* by a careful dissection which extended from the tuberosity of the ischium to the middle of the calf; the incision measured about 54 cm. (24 inches). The tumor, which was a white, dense, extremely hard, and resisting mass, had to be removed by

a process of slow and tedious dissection. It was impossible to enucleate or shell it out of its surroundings; it had no capsule; it is blended everywhere most intimately with surrounding tissues. When removed it measured over seventeen inches in length, and weighed a little more than three pounds. (See Fig. 2.) It was hard, bloodless, and creaked under the knife. The origin of the tumor from the sheath of the sciatic nerve was clearly ascertained, and the greatest difficulty was experienced in separating it from the nerve. In the popliteal space the mass had so completely wrapped itself around the popliteal artery and vein that all efforts to save these vessels had to be abandoned, and more than three inches of each had to be removed. The artery being cut off right down to the level of the bifurcation, and with it part of the posterior ligament of the knee, with which the tumor had contracted inseparable adhesions, had to be excised, thus exposing the knee-joint. The peroneal and internal popliteal nerves had to be literally dissected—carved out—from the mass in which they were embedded. The gastrocnemii and soleus muscles also intimately blended with the mass, at their origin, and part of these muscles, with the corresponding sural and articular branches of the popliteal vessels, had to be sacrificed. At this stage of the operation all hope of saving the foot and leg had been abandoned, believing that sloughing of these parts would be inevitable. Nevertheless, after securing all bleeding-points and removing the constrictor it was observed that the foot and leg gradually lost the waxy cadaveric appearance, and that the color and sensibility of the skin of the foot had returned. All pulsations in the pedal arteries ceased, but the color of the skin encouraged us to hope that a sufficient collateral circulation existed to prevent the total mortification of the leg.

The limb was carefully wrapped up in a copious cotton-wool dressing to keep it aseptic and warm, and the vast wound in the thigh and leg was closed with interrupted sutures and drained. A long posterior, padded, gutter-splint (cardboard), and large aseptic dressing immobilized the limb. The prophylactic hemostasis was very complete and satisfactory. Before operating the limb was drained of blood by elevation, and an Esmarch constrictor was applied high up over the groin and held in place by a Wyeth pin inserted above the great trochanter. In this way the constrictor was held up very high in the hip and prevented from slipping. Notwithstanding complete hemostasis the shock was profound, and the pulse ran up to 160, and was very feeble (the duration of the operation had been over one hour and a half). Three quarts of saline solution were

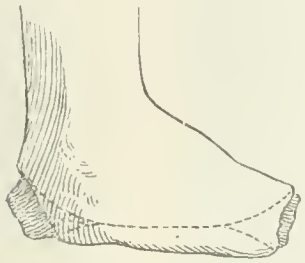
Fig. 3.

Photomicrograph of perineural fibroma of sciatic nerve. (Prepared by Dr. O. L. Polthier, Pathologist, Charity Hospital, New New Orleans, La.)

at once injected in the basilic vein, and the pulse fell to 120 and became full and strong.

A careful examination of the tumor was made by Dr. O. L. Pothier, Pathologist of the Charity Hospital, and many sections were cut from different portions of the growth. The bulk of the mass was found to consist "of a dense fibrous tissue of the adult type originating from the neurilemma of the sciatic and its branches." (See Fig. 3.) In many of the sections examined nerve-filaments were found very much distorted by a hypertrophic sclerogenic process, and totally surrounded by dense fibrous tissue.

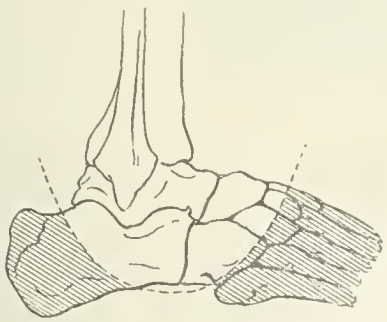
FIG. 4.



Here and there is the periphery of the growth, round, young, connective-tissue cells could be recognized in a state of transition to the adult forms. The growth of the fibroid tissue had been in many places interstitial, but the tendency of the fibroid process had been to grow excentrically and to invade the perineural connective tissue; this with the fascia and intermuscular septa soon participated in the process, and, in turn, attained huge proportions in consequence of progressive hyperplasia.

The next day the pulse stood at 140 and the temperature

FIG. 5.



103.5°. The foot, including the toes, could be moved freely by the patient, but all sensibility had left the toes and heel. The toes had also become markedly pale. Ecchymotic spots were noticed over the heel and in a small area over the tarsus. These spots, together with the toes, became subsequently the seat of a leathery odorless, dehydrating mortification. The general condition of the patient rapidly improved, and three weeks after the operation the sloughed parts were removed with scissors. No attempt was made to shape the stump. The heel and toe surfaces were gradually covered with indolent granulations, but the healing process was very slow. Coincidentally with this indolent effort at repair, signs of trophic and vascular disturbance (*viz.*, diminished sensibility, with redness and sweating in the sole of the foot, accompanied by "burning" pains in the plantar surfaces or "erythromelalgia") became pronounced, and annoying symptoms of neural lesion were unmistakable. Early in March, 1899, an atypical conservative operation was performed with the view of remodeling the stump and providing a suitable covering to the heel and toe regions. An external curvilinear incision was made on the dorsum of the foot, extending from the tendo-Achilles behind to the base of the metatarsals in front. (Fig. 4.) All the plantar structures were reflected in a single massive flap, including the vessel and nerves, from the skeleton of the foot, the bones of the tarsal being laid bare on the plantar surface. The skeleton of the foot was then reduced to the requisite size and shape by sawing the tuberosity of the calcaneum, part of the cuboid, and the cuneiform with the metatarsals. (The line of osseous section is indicated in Fig. 4.) In this way an ample covering of healthy plantar and dorsal flaps was obtained to cover the stump. In the course of this dissection the plantar nerves were exposed at their origin from the posterior tibial and stretched (as suggested by Chipault for the treatment of perforating trophic ulcer of the foot), hoping that by this procedure the erythromelalgia of the sole would be relieved. A very excellent, painless, and well-nourished stump resulted from this operation. The line of incision healed with remarkable rapidity and scarcely any suppuration. The vascular and neuralgic symptoms which had proved so annoying before the operation disappeared altogether, and the patient was soon able to leave the ward in excellent condition. He is now better than ever before, having gained remarkably in flesh and strength in consequence of his ability to enjoy outdoor exercise. When he last called to see me, in April, 1899, he was able to walk on the stump without pain or inconvenience, and had good normal motion at the ankle-joint. It is quite possible that with further exercise he may still have a recurrence of trophic symptoms in the foot, as the amputation is too recent to test the permanency of the recovery, but the result thus far obtained is certainly strikingly favorable and most encouraging. (Fig. 6.)

The points of interest presented by this case are:

1. The existence of a primary perineural fibroma originating in, and involving the entire sheath of the sciatic and its branches.

2. The diffusion of the fibroid process throughout the posterior aspect of the thigh and popliteal connective-tissue planes, without definite encapsulation, forming a hard, dense tumor of vast proportions.

3. The preservation of the entire sciatic nerve-trunk and its large popliteal divisions in spite of the intimate blending of the neoplastic tissue with the neurilemma which was incorporated in the tumor, and was completely surrounded by the mass throughout its course, more especially in the popliteal space.

4. The slow and painless growth of the tumor—ten years.

5. The involvement of the vascular sheaths of the popliteal blood-vessels in the tumor, which made it impossible to dissect the vessels out of the mass.

6. The extirpation of the tumor and excision of more than three inches (7.5 cm.) of the popliteal artery and vein.

7. The comparatively small area of popliteal sloughing (toes and heel) that followed the total excision of these vessels and many collateral branches.

8. The useful walking stump left to the patient, after a secondary partial and atypical amputation of the tarsus to remodel the stump.

9. The general good result as regards serious trophic lesions from injury to the sciatic nerve, which is an encouragement to conservative efforts in similar cases.

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FIG. 6.

Appearance of the limb and cicatrix, showing the extent of the dissection required for the removal of fibroma of the sciatic. The appearance of the foot stump after healing is also shown.

MEDICAL PROGRESS.

The Dangers of Headache Powders.—SOBEL (*Med. Record*, Sept. 30, 1899) reports an instance in which a school teacher aged 25 years was severely poisoned by taking powders of a proprietary character which according to the label did "not contain morphine, opium, antipyrin or any other dangerous drug." The patient became very cyanotic and cold, with a pulse of 96 and a slightly subnormal temperature. She was given aromatic spirits of ammonia and strychnin and hot drinks, and in 24 hours the cyanosis had disappeared, and the pulse and temperature returned to the normal. Examination of the powders showed that they contained a large quantity of acetanilid. The writer expresses himself most strongly against the indiscriminate self-administration of headache remedies and says that the amount of the dangerous drug placed in one powder ought to be limited by law.

Failure of Operative Treatment of Abdominal Tuberculosis.—WUNDERLICH (*Archiv für Gyn.*, vol. 59, p. 216) reviews the dark side of laparotomy in the treatment of abdominal tuberculosis. So many instances have been reported in which complete recovery has followed simple abdominal section that one is apt to lose sight of the failures which result from this method of treatment. These failures are numerous, however. For example, during the last eighteen months Wunderlich had opportunity to observe ten patients upon whom abdominal incision was made. Of these ten, seven were in no way benefited and the process either continued undisturbed by the operation or the patient was directly injured by the same. In no instance was death directly due to the operation but in one the patient died within six days. The cicatrix under

went tuberculous degeneration with the formation of a fecal fistula. Altogether four of the patients died within three months in spite of the fact that two of them left the hospital in apparently perfect health. One patient who did not die suffered from a fecal fistula which formed n the scar within two weeks of the operation. These instances are sufficient to show that one may not speak of a cure of abdominal tuberculosis until several years have elapsed. Examination of hundreds of reported cases showed the writer that a recovery after abdominal section is most likely to occur in the ascitic form of the disease. In this form the patients who lived after the operation three years or more without a return of the symptoms numbered 23.3 per cent.; whereas only 9.8 per cent. of those who suffered from the adhesive form of the disease could be regarded as cured after abdominal incision. There is no doubt that the curative effect of laparotomy upon peritoneal tuberculosis is vastly overestimated. Indeed, one is almost justified in denying that laparotomy has any curative effect, since cases are recorded of spontaneous cure without any operation.

Increase in Weight of Infants Fed Artificially.—KOPLIK (*Arch. of Pediatrics*, Oct., 1899) says that infants fed artificially must not be expected to gain weight with the same regularity as do breast-fed infants. By a series of observations extending over nine years he found that when artificially fed infants are doing well they have a daily gain in weight ranging between twelve and thirty-two grams (half an once to one ounce). Most of the infants whose weights were taken lived in tenement-houses and many of them in distinctly bad hygienic surroundings. The fact that children under such circumstances often suffer from more or less severe attacks of indigestion would account for a part of the irregularity in their gain in weight. In private practice the figures are somewhat more uniform, but even then there is a great variation from week to week. Cammerer has shown that when infants are fed upon the breast there is an almost constant increase ranging between four hundred and six hundred grams (fifteen to twenty ounces) a month. Koplik brings out the interesting point that if an artificially fed infant is given the breast two or three times in the twenty-four hours or even only once during the twenty-four hours, it will show a much better average daily increase than a baby fed on the bottle alone. Thirteen babies who weights were tested daily under such circumstances closely approximated the figures given by Cammerer for exclusively breast-fed infants.

The "Rational" Treatment of Typhoid Fever.—PAGE (*St. Louis Med. Gaz.*, Oct., 1899) criticises the manner in which cold baths are used in the treatment of typhoid fever, saying that they should never be employed for the purpose of directly reducing the temperature but in order to remove the cause of fever and pain. This can never be accomplished by the use of antipyretic drugs. In addition to the cold baths of which the writer give sometimes as many as six the first day, the patient is kept on a strictly water-diet for several days until he is convalescent and actually hungry. During this time absolutely nothing is given but soft, fresh water in large quantities. In every case of extremely high temperature there is practically a loss of all the dissolving and preserving fluids, saliva, gastric juice, etc., and in place of digestion there is only fermentation and putrefaction of ingested food with consequent blood-poisoning. This is the explanation of the unsatisfactory results obtained by some physicians who have made use of the cold bath, the advantages of the bath in their hands having been overbalanced by the disadvantages of the food given as many physicians employ forced feeding as a routine practice. If no food is given it will not be necessary to continue the baths in most cases for more than a few days. Page gives the history of a patient, to whom six baths were given the first day, and two on the second day. It was not found necessary to give any baths after that, and in a week the patient was thoroughly convalescent.

A New Method of Reducing Dislocations of the Lower Jaw.—MCGRAW (*Med. Record*, Oct. 7, 1899) was called upon to treat a patient whose jaw had been dislocated by a fall in a paralytic stroke five months previous. The dislocation was bilateral. Protracted efforts to effect reduction under ether failed. A week later the patient was again etherized and a short incision under each zygoma was made. A small steel hook with a short prong bent so as to run parallel to its shaft was passed through the skin incision and the fibers of the masseter, and over the jaw-bone above the sigmoid notch, until the hook fastened around the neck of the jaw-bone in front of the condyle. Pieces of cork were then inserted between the molar teeth as far back as possible and an assistant pulled the jaw forward and upward with all of his force while McGraw made traction upon the hook. This was continued for fifteen minutes. The only results was to move the bone slightly. A similar operation was performed on the left side and the operator then succeeded in dragging the head of the bone back into its proper position. The incisions required were very short. Made in the proper place it is only necessary that each incision should be long enough to permit the entrance of the hook.

Dyce Duckworth on Bread-Making.—In a letter communicated to *Food and Sanitation*, this celebrated physician expresses his contempt for modern bread in the following manner:

"On my return to Scotland," he says, "I am always pained to find that the art of bread-making has much fallen below its former preeminence, and I am told that the public now clamours for raw, uncooked bread, and will have no other. Each time I come back to Campbelltown I have to educate my baker to prepare for my family bread properly fired, and I see that I get it. Not a loaf in any shop in the town would pass my inspection. The mischief which results from this uncooked bread is very serious. In this as in other cases, an ignorant public has its way, and the unwholesome demand is met by the supply of a half-cooked loaf. One result is plainly obvious, and that is the bad condition of the teeth of all

classes. With no hard crusts to chew, no vigor and health for the teeth, no adequate supply of saliva for digestive purposes, hence attendant degrees of indigestion. Artificial teeth, thus rendered necessary, of course increase the demand for raw crustless bread, and so all works in a vicious circle.

"It is surely sufficient to point out facts like these to intellegent Scotsmen and Scotswomen to secure a change for the better, and to enable the bakers to practise their business as they well know how. Extra firing till the crust of the loaves is almost brown, and three-sixteenths of an inch thick, is what is requisite. This is no 'fad,' or matter of fashion, but a necessity for all time."

THERAPEUTIC NOTES.

Treatment of Malaria by Inunction of Creosote.—FITZGERALD (*Brit. Med. Jour.*, July 15, 1899) has treated a number of patients with a mixture of creosote and olive-oil, 1 part of the former to 3 of the latter, using from 15 to 20 minims of creosote for a child and 30 to 60 for an adult. The results were remarkably uniform. In the patients who had already been treated with quinin, there was an immediate improvement and no relapse, but owing to the previous treatment the creosote could only be looked upon as an adjuvant to the quinin. In another class of cases consisting of adults to whom quinin had not been administered recovery was equally prompt. The temperature became normal in a few hours and remained so and there were no relapses. In most instances only one application of the creosote was made. In a third class of cases consisting of children some of whom had previously received quinin, the effect was even more striking than in the case of adults. For instance, a child aged three and a half years had a temperature of 105 4° F. taken in the groin at 11 P. M. For two days she had had a high fever and would take no medicine. She was quite delirious. Twenty minims of creosote were rubbed in at once, and the effect was almost instantaneous. The delirium ceased rapidly, consciousness returned, there was great irritability for a few minutes and then the patient became quiet and soon fell into a sound sleep lasting two hours. In half an hour from the administration of the creosote the temperature had fallen three degrees. At seven o'clock the next morning it was 100° F.; at ten o'clock it had risen again to 105° F. and convulsions were beginning. Twenty minims of creosote were again rubbed into the skin and immediate relief again followed. This treatment was repeated five or six times in the course of the next twenty-four hours. The following day the temperature was normal and remained so. The writer looks upon this treatment of malaria in children as ideal. Even in very severe cases it acts rapidly and continuously and, as far as he has observed, with absolute certainty. No bad effects have been noticed as a result of excessive use of the drug.

An Effective Treatment of Vesical Hemorrhage Due to Papillomatous Growths.—HERRING (*Brit. Med. Jour.*, July 29, 1899) says that if a patient is suffering from vesical hemorrhage due to papillomatous growths a diagnosis can usually be made by washing out the bladder with sterile water and at once mounting the shreds of débris for microscopical investigation. If the diagnosis is a positive one the daily injection of solutions of nitrate of silver will suffice to control the hematuria and in some instances may completely cure the condition. Four ounces of warm water containing one-half grain of the nitrate suffice for the first injection. The strength should be increased every day or two until the four ounces contain one and one half or possibly two grains. The susceptibility of the patient's bladder should be the guide. He ought never to feel pain but only a warmth in the vesical region which should subside entirely in half an hour. The solution should not be so strong as to cause frequency of micturition. When the maximum strength has been determined the irrigations should be continued daily for a few weeks. If bleeding has then ceased the patient may use the injections every other day for six months, and after that every third day for a variable period. Finally, treatment may be abandoned but should immediately be resumed if hemorrhage recurs. It is needless to add that strict asepsis should be observed in these cases as a septic cystitis in a patient with papillomata of the bladder is a most troublesome condition.

A Dental Hemostatic.—Mix 2 parts chloroform with 100 parts water. Use after extraction of teeth.—*Spaak.*

For Hemoptysis —

℞ Ext. hydrastis fl. } aa. . . . ℥ ss.
Tinct. hydrastis. }
M. Sig. Twenty to 50 drops three times a day.

In addition to its hemostatic action, the above has a good effect on appetite and digestion and never nauseates. In case of obstinate cough the addition of codein or morphin is recommended as follows:

1. ℞ Ext. hydrastis fl. } aa. . . ℥ ss
Tinct. hydrastis. }
Codeinæ . . . . gr. v–viii.
M. Sig. Twenty to 50 drops three times a day.

2. Ext. hydrastis fl. } aa. . . ℥ ss
Tinct. hydrastic }
Morph. hydrochlor. . . gr. iiss–v.
M. Sig. As above.

The treatment should be continued for several days after the hemoptysis is arrested, and the dose then be rapidly diminished. It is important that the preparations used should be fresh.—*Scarpa.*

Elimination of Toxins by Means of Salivation.—LEUBE of Wurzburg, having observed a case of ascites which was relieved by a copious flow of the saliva, tried the effect of salivation in a number of cases of effusion (pleuritic and ascitic), and found that resorption of the fluid began immediately after the treatment, which consisted in the use of chewing-gum, was instituted. He considers that while the kidneys and skin are taxed to the utmost in the effort to cause the elimination of poisons, the salivary glands are usually overlooked, and suggests that salivation should be tried in addition to diuresis and diaphoresis in the treatment of hydrophobia.

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HOW TO QUARANTINE AGAINST THE PLAGUE.

THE recent appearance at Quarantine in New York harbor of a ship hailing from Santos, Brazil, laden with coffee, and having on board two cases of bubonic plague, has raised the question in a most practical way as to what quarantine requirements are necessary to allow the ship pratique. The two patients were placed in the quarantine hospital and the rest of the crew in detention-quarters for disinfection and observation; the ship was thoroughly disinfected, and the coffee placed in bulk on lighters and exposed to the air for eight days. Quarantine Officer Doty considered these sanitary measures sufficient to obviate all danger of infection and passed the ship and cargo through quarantine.

The New York City Board of Health, however, insists that there is at present no known method of disinfection that will guarantee immunity in such circumstances; has notified the consignees of the ship that the vessel cannot come to any dock in the city, that it cannot pass by the city, and that the coffee cannot be landed even from the lighters. In order to insure the execution of these orders, the police patrol boat has been placed on guard to watch the lighters and the ship. To add to the complication two other ships have arrived from Santos, loaded with coffee. It is also reported that ten more coffee laden ships are now on their way to New York from the plague tainted port of Santos.

The success that has been attained at Singapore in preventing the entrance of plague into that port, and the quarantine measures that have been applied in accomplishing this end, may throw some light upon the question at issue. The *British Medical Journal* of November 25th in speaking of this says: "A very remarkable feature of the plague in the East is the immunity which Singapore has enjoyed, notwithstanding its communication with infected ports."

The system adopted for dealing with ships arriving from infected ports was to anchor them at the quarantine station, where the passengers and crew were inspected by the Health Officer, after which the passengers were landed at an island, and there detained until nine days had elapsed from the time they left the infected port. The ship was disinfected if necessary, and allowed pratique. Not only was this inspection duty of a very onerous nature but the opportunities for bringing infection were very great. Vessels from China at times brought from 3000 to 4000 coolies, each of whom had to be personally examined before being permitted to land, and attempts at concealment of illness were frequent. The numbers inspected were—in 1895, 195,633 passengers and 11,438 crew; in 1896, 145,814 passengers and 43,457 crew; in 1897, 115,542 passengers, and 12,573 crew; and in 1898, 144,686 passengers and 12,571 crew. In each year a number of plague cases were detected and isolated, and in the first seven months of 1899 ten such cases were dealt with in addition to five that were doubtful.

"The experience of the five years," says our authority, "showed that the risk of plague infection from certain cargoes coming under the category of susceptible is practically *nil*, for owing to the vast amount of commercial business done at the large ports of Hong Kong and Singapore, no disinfection of cargo was attempted; yet no case of plague occurred in Singapore from the admission of susceptible cargo, or from its being unpacked, packed, or handled."

This experience at Singapore provided the *British Medical Journal* is in possession of all the facts seems to justify Health Officer Doty in the position he has taken. The journal, however, does not affirm that there have been no cases of plague in Singapore but that "no case occurred there from the admission of susceptible cargo." If cases have existed there as reports show they have, it might be difficult to establish the statement that none of them came from any of the "susceptible" cargoes. The condition at New York is too serious a matter for the application of any experiments and until safety is established beyond peradventure of a doubt it is well to wait.

THE GENESIS OF THE ALBUMINS IN ALBUMINURIA.

WITHIN recent times it has become a fact of general recognition that the urine of patients suffering from albuminuria contains more than one variety of albumin, and extended research has shown that at least three albumin compounds are to be borne in mind. These most important bodies are serum albumin, serum globulin, and nucleo-albumin. With the definite appreciation of what these bodies are, the further knowledge of where they come from is, however, not so clear; and what the functional changes in the kidneys may be, which are correllated with the chemical variations of its secretions, is a subject that has invited much speculation as well as experimental investigation, with as yet but contradictory results. Such is not to be unexpected when fully acquainted with the intricacies of the question involved, as Senator's monograph on diseases of the kidney evidences.

With the determination to ascertain, if possible, the causes for the elimination of each of these bodies, M. Cloetta of the University of Zurich (*Arch. für Pathologie und Pharmakologie*, 42, 1899, p. 452) contributes a series of clinical observations, experiments, and pathological studies. Albumoses, peptones and other well-recognized constituents are not included in the general discussion since their pathogeny is fairly well established.

The methods of experimentation employed were various but most of them depended on the relationship of the bodies found in the blood and in the urine following some definite method of kidney irritation. Experiments making use of osmolytic phenomena were also freely employed. These latter seemed to show that the character of the transfused albumin depended in large part on the thickness and permeability of the osmotic membrane, and thus pointed directly to the suggestion that in the kidneys themselves, the thinner the epithelial layers, the transudate more closely resembles the composition of the incoming fluid, *i. e.*, the blood in certain of its albumin constitutents. The thicker membranes render the passage of globulins more difficult. When, with this result is borne in mind the clinical experience, that in acute nephritis the serum globulin is quite appreciable, and that on the other hand the serum albumin quotient is much higher in chronic contracted kidney, and that as recovery gradually takes place in acute nephritis the serum albumin increases, it may be seen that some correllation may be made between clinical and experimental results. Irritation of the kidney substance by means of injections of aloin, in guinea-pigs, has also brought about suggestive results.

With reference to the presence of nucleo-albumin the author is of the opinion that it comes not so much from the blood-current as from the renal epithelium itself. Thus in the acute degenerative types of nephritis it is nearly always present and comes from the degenerated cells of the tubules; in chronic indurative cases it is found in small quantities only. In cases of eclampsia it is also absent, whereas in the nephritis of the acute infectious diseases nucleo albumin is found in large quantities. It thus serves as an index of the amount of cellular degeneration in the renal structures.

THE RAILROAD SURGEON AS A FACTOR IN MODERN LIFE.

THE recent meeting of the New York State Association of Railway Surgeons, a brief account of which appears in our columns this week, calls attention once more to the duties that railways owe to their patrons in the matter of prompt, efficient, and expert medical and surgical assistance in case of accident. Important railroads entering New York City, following a lamentably shortsighted policy, have no organized corps of surgeons ready to answer their emergency calls. A certain number of accidents on railroads are practically inevitable. To save suffering and the serious consequences that may

result from delay in treatment or unskilled first aid to the injured is evidently an important duty of the railroad company. This should be insisted on by patrons of these dilatory lines.

The question of the physical fitness of railroad employees is of great interest and importance. So much depends on the eye or the ear of the railroad employee that it is important that these organs should be tested carefully on entrance into the service and continuous supervision be exercised at stated intervals. Where large numbers of men are employed occasional examination by a neurologist would also seem to be demanded in the interests of both the company and the traveling public. This may seem a refinement to those who have not considered the subject, but it has been known more than once that men liable to occasional attacks of epilepsy have held the position of switchman or signalman, and it is to this that accidents may occasionally be undoubtedly attributed. Epilepsy, as is well known, develops in some instances late in life, and gives no warning of its approach except to the skilled specialist. There are, moreover, the various forms of mental aberration, whose fatal consequences can only be anticipated in the same way.

During the past year a number of the English, French, and German railroads, following the example set by certain progressive American lines, whose surgeons first saw the usefulness of it, have equipped their cars with first-aid packets, practically the same surgical dressings as are supplied to soldiers in the field. Employees are being drilled in the simple principles of first aid to the injured. If this should have no other result than to prevent the meddlesome interference that so often does harm every surgeon will readily appreciate its possibilities for usefulness.

We have entered upon a phase of modern life when every detail that foresight can provide to lessen danger and decrease human suffering is welcome as part of the great modern advance in humanitarianism.

These details of medical service may seem trivial in comparison with other great interests and the fortunately rare necessity for their application in our day may lead to their neglect, but the duty in the matter is plain.

Cadiz Infected.—It is reported that one bona-fide case of bubonic plague has developed at this place.

ECHOES AND NEWS.

Professor Lenhossek of Tubingen has been called to occupy the professorship of anatomy in the University of Budapest.

Dr. Born Elected Professor of Diseases of the Eye at the New York Polyclinic.—At the last meeting of the Faculty R. O. Born, M.D. was unanimously elected to the professorship of ophthalmology.

Smallpox at Ohio Wesleyan University.—A student in the Girl's Seminary of the Ohio Wesleyan University, at Delaware, O., was taken ill with smallpox November 28th, and, immediately her disease was made known, 225 of the 300 students attending scattered for home.

Western Doctors Will Go To Paris.— It is reported that more than four hundred physicians from Illinois, Iowa, and Missouri are arranging to sail from New York on the "City of Rome" June 30, 1899. Their main object is to attend the International Congress of medical men to be held in Paris during the exposition.

State Sanatorium for Consumptives.—The Committee on Sanitation of the New York State Board of Charities held a meeting at Rochester, December 2d, to outline a bill for the establishment of a sanatorium for consumptives in the Adirondacks. The committee will report in favor of the sanatorium, at the meeting of the State Board in New York on December 12th.

Serum Treatment of the Plague.—The serum of Yerzin, obtained from the Paris Pasteur Institute, is being employed at Santos for the treatment of the plague. Thus far 800 grams have been used, but with little success. It is believed by the authorities that the serum is inefficacious because of its age, a factor that Koch has shown to be a very important one. Experiments with fresh serum at Oporto has given most satisfactory results.

Testing a Cure for Leprosy.—Experiments are to be made at Honolulu in the use of a Venezuelan shrub for the treatment of leprosy. The samples have been forwarded by Surgeon-General Wyman of the United States. The shrubs are growing at Honolulu under the care of Dr. Carmichael of the United States Marine Hospital Service, who has been asked by the department at Washington to make the experiments.

Sale of Quinin in Batavia.—A report from the United States Consul at Batavia, Java, under date of October 14th, relates the results of efforts to arrange for the sale, independently of the trust in Europe, of the quinin product of the Java cinchona-bark plantations. The first public auction will take place in Batavia about the end of January, or in February next. Some 7000 kilograms of sulphate of quinin will be sold. The Consul advises American firms to take advantage of this opportunity.

Oysters and Hospital Drainage.—Residents of Suffolk County have complained to the State Board of Health

that the Long Island State Hospital empties its drainage into the Nissequogue River which passes out over oyster and clam beds in the Sound. In the event of typhoid fever occurring in the hospital this drainage would undoubtedly contaminate the oysters. Dr. Baxter T. Smelzer, secretary of the State Board of Health, and State Engineer Bond have been sent to investigate.

Professor Sanarelli on Yellow Fever Once More. — The distinguished discoverer of the bacillus icteroides has sent us an answer to the recent criticism of his position as regards the specific pathogeneity of that bacillus for yellow fever which have appeared in the columns of the MEDICAL NEWS. His answer will be found to be a very good review of the present position of the subject with a very sharp and somewhat personal retort upon his critics. Surgeon-General Sternberg contributes a dignified response.

Our "Strenuous" Governor.—Governor Roosevelt, who has from time to time urged his fellow-citizens to lead a "strenuous" life, is putting his theories into practice. The spacious billiard-room of the Executive Mansion at Albany has been transformed into a gymnasium and a course in wrestling has been begun. At the first lesson it is said that the Governor, in ring costume, was so vigorous in his exercise that his instructor was in constant danger of being rendered *hors de combat*. At this rate a number of physical culture gentlemen will have to be provided for the season.

A Pharmacist Punished for Substitution.—In a bill for an injunction Fairchild Brothers & Foster of New York had charged Edward Otto, a Chicago druggist, with substituting a spurious and inferior preparation for "Fairchild's Essence of Pepsin" in several cases where the latter was expressly called for in physicians' prescriptions. The case was hotly contested and hundreds of pages of depositions were taken in New York and Chicago. Judge Kohlsaat's decree sustained the charges made. It perpetually enjoins Otto from ever repeating the offense and taxes him with the costs, amounting to about $500. Judge Kohlsaat's decision will probably protect manufacturing chemists, physicians and the general public, all of whom have in the past suffered from these fraudulent practises of a certain class of druggists.

Obituary.—Dr. Sheffield Green died November 29th, at his home in Richberg, New York, aged eighty-seven years. He served as surgeon in the Civil War and during the Appomattox campaign he was acting surgeon of the One Hundred and Forty-seventh New York Infantry. —Dr. John Stamford Sayre, formerly Passed Assistant-Surgeon in the United States Navy, died at his home in Monticello, Missouri, on November 30th. He was a graduate of Princeton and of the Medical School of the University of Michigan.—Dr. Charles Edmund Jones, son of the late Dr. Erasmus Jones, died on December 1st. He studied medicine at the Albany Medical College after which he took a course in the Homeopathic Medical College in New York. He had been president and secretary of the Albany County Medical Society and has been a member of several homeopathic organizations.

Inoculation against the Plague in India.—Lord Curzon, the Viceroy of India, at a recent meeting at Poona, expressed himself vigorously in favor of inoculation against the plague, and gave proof of his faith by submitting to the operation himself. Although the Viceroy is a layman his opinion is nevertheless of interest. He observes that out of 100 plague seizures among uninoculated persons, the average number of deaths is about 70 to 80 per cent., while in a corresponding number of cases among inoculated persons the proportions are entirely reversed, and 70 to 80 per cent., if not more, are saved. He considers that such figures cannot fail to carry conviction and he does not see how, in the face of them, it is possible for any one to doubt the value of the process. The majority of the most distinguished native medical practitioners in the country are already in its favor, and more and more converts are being made from the remainder each day.

Sanitary Condition of Santos. — In view of the extension of the plague at Santos it is of interest to know of the sanitary conditions there existing. The reports that can be relied upon describe the town as in a very filthy condition. By reason of there being an epidemic of yellow fever there some attempts have been made to clean up the sewerless streets, but thus far the attempts have been ineffectual. The dock commissioners report a very great increase in the number of dead rats. This from the known association of rats and the plague has caused some anxiety, which should call out active methods for the cleaning of the city. Disinfection of departing cargoes is not carried on nor is the property of emigrating persons subjected to any thorough disinfection. Though the health authorities are being stirred to activity, they do not possess the necessary corps of equipped sanitarians nor the apparatus.

Sidelights on the Plague —The steady persistence of the plague at Oporto is still watched with some uneasiness. Two hundred and thirty-six cases in nearly twelve weeks is not an appalling epidemic, and the death-rate is barely 30 per cent., but the profession is both grieved and alarmed by the lamentable death of one of its own members, Dr. Pestala, the Director of the Bacteriological Institute at Lisbon, as a result of an infection contracted while investigating the plague at Oporto. Nearly sixty persons who were unfortunately inmates of the same house with the doctor had to be taken to the lazzaretto, and the town was naturally a good deal alarmed, but fortunately no new cases have been reported in the four or five days since. As an ingenious amplification of Dr. Patrick Manson's campaign against the plague may be mentioned the procedure of the French sanitary authorities in Algiers, who, after carefully sealing all openings in the sewers and flushing all traps, proceeded to charge them with large quantities of sulphurous acid gas. In this way they succeeded in suffocating, in their inmost fortress and chief resort, the rats with which the town was infested. What a price, by the way, the Pied Piper

of Hamlin could command from plague-threatened municipalities, if he could only reappear in these days.

Dr. William H. Welch to Be Honored by His Pupils.—It is customary in Germany for the pupils of a great teacher to express their appreciation and gratitude by dedicating to him a volume of their contributions to learning. The pupils of Dr. William H. Welch of Baltimore have decided to give expression to their regard for him in a similar way and the publication of a volume to mark his twenty-fifth year as a teacher and investigator is now in progress. During the past twenty-five years some seventy-five persons have undertaken investigation under Dr. Welch s leadership and nearly half of these will contribute to the volume mentioned. The edition will necessarily be limited by the number of subscribers. An early announcement of the publication is made to give opportunity for subscription, so that the committee can decide upon the number of copies to be printed. The volume will be royal octavo in size, and will contain at least five hundred pages of printed matter. It will be illustrated with many lithographic plates and text figures. The price has been fixed at five dollars. The book will contain contributions to pathology and to correlated sciences agreeing in scope with that of the leading scientific journals. All communications and subscriptions should be addressed to Dr. F. P. Mall (Secretary of the Committee of Publication), Johns Hopkins University, Baltimore, Md.

Health of Our Troops in the Philippines.—When the Philippine War, now apparently drawing to a close, shall be ended not the least of its many unusual features will be the exceptionally low death-rate of the American Army, including in this view both the mortality on the field and the mortality from disease. If any Volunteer regiment afforded a good test of comparison it was the fighting 20th Kansas. With a roll of 46 officers and 1266 enlisted men, after months of the most active and courageous service, it recorded a loss of only 3 officers and 30 enlisted men killed or dying of wounds. Only 33 Kansans died of disease, the total death-rate being only 5 per cent. for the men and 6 per cent. for the officers, all of whom were exposed to the double danger of an enemy's bullets and a tropical climate. We all remember the dire predictions of a year ago as to the terrible ravages in store for our troops when they came under the burning skies of Luzon. They were to go down by the thousands and not even our best medical arrangements were counted on to do more than slightly mitigate the effect of the inevitable calamity impending. General Otis has had practically a city of 30,000 inhabitants under his command in the soldiers serving under him, yet if the same record of mortality were made in any American city of the same population there would be no alarm expressed nor would the place be avoided as being especially unhealthful. —*Army and Navy Journal.*

Notes on Santos.—Santos is a small city, some three hundred miles south of Rio de Janeiro. The population of the city is made up largely of laborers dependent upon the coffee interests for their living, the better merchants of the place residing in the city of Sao Paulo, the capital of the State, thirty miles inland. The importance of the place in the world's commerce may be appreciated from the fact that in 1891 the total shipping amount to 808,000 tons. The city is very flat and most of it is but a few feet above sea level. As a result it is surrounded by large areas of fresh-water swamps, because the heavy surf from the ocean throws up a dike of sand along the sea front, thus holding back the waters of the streams from the mountains, except in times of very heavy rains, when the large flows break through and for a time relieve the swamps of their surplus water. The town has a system of sewers, but they are laid on very flat grades and in some cases have no slope, the putrefying sewage filling long lines of mains and giving off offensive odors, as well as infecting the subsoil. The sewage is collected at a pumping station at the edge of the town and discharged into the harbor on the mud flats, a pretense of chemical treatment being made in some small settling basins. The works as administered are thoroughly insufficient, and it is evident that, in view of their imperfect construction and inadequate sizes, they will have to be reconstructed, especially as the point of discharge of the effluent is in a very unfavorable place, and as there is a good location for it a little further down stream. There are also a number of drains, with walls laid without mortar, leading under the business portions of the town, running under the buildings and almost impossible to trace. The filth in these is carried back and forth by the tides and their embouchures are into the harbor, through the walls upon which the vessels discharge their cargoes. In the central portion of the business district there is a depression of the grade of the street, thus forming a pocket in which the surface water collects during heavy rains on account of the stoppage of an untraceable drain, and the store proprietors in the region built masonry dams about three feet high across the doorways to prevent this flood entering the stores and ruining their stocks. The houses are built in the manner characteristic of the country, being generally one story in height, of masonry, and with no cellars or ventilation under the floors, with no windows in the interior rooms, and with the most primitive sanitary arrangements. The streets and yards of houses are often in a most filthy condition, and personal habits of cleanliness and decency are on every hand observed to be violated to a disgusting degree. On the sidewalks of the side streets, in the heart of the town, deposits of fecal matter are frequently observed, and the drains from the urinals, located often against the fronts of houses, commonly discharge their contents in the street gutters. An effort was made by the city authorities to mitigate the evil by disinfecting these places with chlorid of lime, but various distinctive odors on a hot moist day are in strong evidence all over the town. In view of the fact that plague has now invaded this unfortunate country, it is to be regretted that the sanitary conditions are so bad. Once more the customary salutation of the nightly parting of friends in business will be "good bye" instead of "good-night."—"Marine Hospital Report."

MEDICAL MATTERS IN NEW YORK.

YELLOW FEVER ON A TRANSPORT—HOSPITAL SERVICE IN QUEENS—IMPROVEMENTS AT ST. VINCENT'S HOSPITAL—SMALLPOX AT FORT SLOCUM—MATERNITY HOSPITAL WORK—THE CITY BUDGET.

THE transport "Burnside," which arrived at Quarantine on November 28th from Havana, had one case of yellow fever aboard, a discharged soldier of the United States Hospital Corps. He was removed to Swinburne Island and the ship was held for disinfection.

There is much complaint in the Borough of Queens of the insufficient hospital and ambulance service. The Jamaica Hospital refuses to attend cases beyond a radius of two miles from the hospital, and will not attend to medical cases without a physician's certificate. The hospital receives from the city the munificent appropriation of $1500 a year; this amount, however, it considers inadequate.

The fiftieth anniversary of the founding of St. Vincent's Hospital was celebrated on November 26th by the dedication of the new chapel by Archbishop Corrigan. This chapel is of French Renaissance design. All of the fittings and furnishings are gifts from friends of the hospital. A children's ward, for children of both sexes over two years' old, and a free dispensary have also been opened.

Two cases of smallpox were discovered at Fort Slocum on Daniel's Island near New Rochelle on November 27th. The patients are two soldiers who came from Birmingham, Ala., ten days before the above date. Dr. Peck of New Rochelle investigated the situation and considered that there was no danger for that city but a quarantine was established against Daniel's Island.

An outline of the work of the Society of the Lying-in Hospital during the last seven years is contained in the advanced sheets of the annual report. The recent enlargement of its equipment through the liberality of Mr. J. Pierpont Morgan is described. Property adjoining the hospital has been secured which makes available for the new structure a total space of 21,750 square feet. The new building is expected to be ready for use on January 1, 1901.

Controller Coler's recent investigation into the appropriation of municipal funds for charities is discussed in the report. The recommendation made by the Controller's investigating committee, that the further granting of public funds to charities in this city be discontinued, is condemned. Since 1896, $12,000 has been received annually by the society from the city.

According to a decision rendered some time ago by Justice Pryor, ambulances taking people to hospitals have no absolute right of way, but must take their turn in the streets like other vehicles. In consequence, Commissioner Keller has notified drivers that they will make themselves personally responsible by getting into street accidents through hurry. It is hoped that this rule may curb somewhat the officiousness of the ambulance surgeons and drivers.

The budget of Greater New York for municipal government in 1900 will be about $79,202,000—a net total decrease of about $4,500,000. Instead of the appropriations for 1899, of $1,941,215 for the Department of Public Charities and of $1,784,847 for charitable institutions, those for 1900 are respectively, $1,696,813 and $2,857,084.

The Health Department submits the following report of contagious diseases for the week ending December 2, 1899: measles, 275 cases, and 11 deaths; diphtheria, 260 cases, and 41 deaths; laryngeal diphtheria (croup), 7 cases, and 13 deaths; scarlet fever, 149 cases, and 7 deaths; smallpox, 2 cases; chicken-pox, 21 cases; tuberculosis, 199 cases, and 134 deaths; typhoid fever, 53 cases, and 19 deaths; cerebrospinal meningitis, 3 deaths.

MEDICAL MATTERS IN PHILADELPHIA.

[From Our Special Correspondent.]

PROPOSED NEW JEWISH HOSPITAL—GIFT OF $250,000 TO THE UNIVERSITY OF PENNSYLVANIA—PRESBYTERIAN HOSPITAL IMPROVEMENTS—MEDICAL CLUB OF PHILADELPHIA—BEQUEST TO THE MUTUAL-AID ASSOCIATION—DEATHS AND INFECTIOUS DISEASES DURING THE CURRENT WEEK.

PHILADELPHIA, December 2, 1899.

THE new Beth Israel Hospital, if, indeed, this institution ever arrives at the dignity of its charterhood, is passing just at present through a turbulent stage of its early infancy. This is due to certain manifestations of the traditional trilogy of envy, hatred, and malice evinced toward the new project by numerous groups of downtown Jewish doctors not included in its list of proposed medical officers The projected hospital is the outcome of a movement recently instituted by the Jewish residents of the southern section of this city to establish a hospital downtown for the benefit of orthodox members of their faith; but, owing, it is said, to factional feelings arising among a large number of Jewish doctors who have been disappointed in seeking positions in the new institution, there is a probability that two, not one, new Jewish hospitals will be established in the near future. The Beth Israel Hospital had obtained a list of 500 pledged subscribers, assuring it an annual income of at least $5000, and includes in its medical staff the names of some of the most prominent Jewish physicians practising in this city. Its rival, as yet unnamed and unendowed, is pursuing a hot chase in quest of funds and of backing, and purposes choosing its medical officers from those Jewish doctors disbarred from holding positions in the rival institution by a clause in the latter's proposed charter declaring that no resident or visiting physician shall be eligible for appointment unless he is a medical graduate of ten-year's experience. Meanwhile, the original Jewish Hospital, long established in the northern part of town, calmly continues its work, and, glancing at its record of an annual deficiency of $5000 or $6000, wonders where a valid excuse for the multiplication of similar institutions is found.

Provost Harrison has announced that a gift of $250,000 has been made to the University of Pennsylvania for the establishment of a new Laboratory of Physics, the donor being a public-spirited Philadelphian who desires that for the present his name be withheld from the pub-

lic. For some time the authorities of the university have been engaged in studying similar laboratories in both this country and in Europe so that within a short time it is hoped that the plans for the new structure and all its detailed equipment will be prepared, making possible its early erection.

The James Hogg Memorial Home for Nurses of the Presbyterian Hospital was formally dedicated, with appropriate ceremonies, on the evening of November 28th. The new building is the gift of J. Renwick Hogg, and with its completion another fine structure has been added to the already notably well-equipped group of buildings owned by this institution. The new building is constructed of brick and stone, in the Renaissance style of architecture, being three stories in height, and having accommodations for 68 nurses. The Neurological Ward of the hospital, now nearing completion, will furnish accommodations for 28 patients; it will be under the special supervision of Drs. S. Weir Mitchell, John K. Mitchell and Guy Hinsdale.

The Medical Club of Philadelphia, which comprises among its members about 500 physicians of the regular school, is about to become an incorporated organization, and to acquire a property for club purposes, situated in a central neighborhood. The recently elected officers of the club are as follows: President, Dr. James M. Anders; Vice-Presidents, Drs. Charles W. Burr, and G. E. de Schweinitz; Secretary, Dr. Guy Hinsdale; Treasurer, Dr. John H. Locke. The Governors of the club are Drs. A. H. Hulshizer and Charles K. Mills.

The will of Dr. Albert Fricke, who died last week, bequeaths one-half of his residuary estate to the Mutual Aid Association of the Philadelphia County Medical Society. The estate is valued approximately at $33,000.

The total number of deaths in this city for the current week was 410, or an increase of 34 over the number reported last week, and of 11 for the corresponding week last year. There were 142 new cases of diphtheria, with 31 deaths; 54 new cases of scarlet fever, with a single death; and 35 new cases of enteric fever, with 6 deaths.

CORRESPONDENCE.

SURGEON-GENERAL STERNBERG'S REPLY TO SANARELLI.

To the Editor of the MEDICAL NEWS.

SIR:—Accept my thanks for the opportunity to read proof-sheets of Dr. Sanarelli's last article.

I gave some of my reasons in my article published in the MEDICAL NEWS of August 19, 1899, for maintaining a position of scientific conservatism as regards the etiological rôle of Sanarelli's bacillus. The paper which you are about to publish adds nothing to the experimental data previously recorded, and, as I said in my paper above referred to, "I have no time or inclination for controversial writing." I have been unable to make any personal investigations since I was appointed Surgeon-General of the Army in 1893, but have followed with deep interest the researches of other investigators, and when the evidence is all in hope to arrive at an unbiased opinion with reference to this important question. For the present I see no good reason for changing the opinion expressed at the conclusion of my previous communication, *viz.*, that the etiological relation of Sanarelli's bacillus has not yet been established. But, as I said in conclusion, "If, however, the results reported by Drs. Reed and Carroll can be shown to be based upon erroneous observations, I shall be ready to revise my opinion. Truth is mighty, and no doubt in the end will prevail."

Dr. Sanarelli's supposition that Drs. Reed and Carroll have been "working with a bacillus which is not bacillus icteroides" is without foundation. The statement made by Reed and Carroll in their paper published in the MEDICAL NEWS of September 9, 1899, is entirely correct. This is as follows:

"In the first place, before proceeding to consider Sanarelli's criticisms of our work, we desire to state that the culture of bacillus icteroides with which we have made the majority of our observations, was obtained by Dr. Sternberg from Pasteur's laboratory. We are informed by Dr. Sternberg that the package containing this culture was opened by Professor Roux in his (Sternberg's) presence, and the culture handed to the latter. It was delivered to one of us by Dr. Sternberg on September 24, 1897, and bore the label of the Laboratory of Hygiene, University of Montevideo. We may remark that this culture was not in the shape of the ordinary stroke culture, but contained a number of well-isolated colonies, such as would be obtained by inoculating an agar slant with a small drop of the blood of an infected animal. Several of the colonies on this agar slant showed the peculiar appearance of growth which Sanarelli considers as characteristic of bacillus icteroides. It was from one of these so-called characteristic colonies that we made our first transfer. Subsequent transplantations have been made by us at intervals of about four weeks, and have always been labeled 'Bacillus Icteroides, Original.' We have thus transplanted this original culture on agar, without transmission through animals, for a period of nearly two years. Like our other stock cultures it has been kept in agar tubes provided with rubber caps, and always in a dark closet.

"In the second place, at the time we began our investigations (September, 1897), no culture of the hog-cholera bacillus was in our laboratory, nor did we procure a culture of this bacillus from the Bureau of Animal Industry until the following spring (May, 1898), about seven months after we had begun our work."

I expect soon to receive a full report of the researches made by Drs. Reed and Carroll at the Army Medical Museum, and also those made by Dr. Agramonte in the City of Havana during the past summer. At some future time, when the experimental evidence is all before us, I hope to make a critical review of the subject of yellow-fever etiology, and if I arrive at the conclusion that the question has been definitely settled I shall be greatly pleased, for I am deeply interested in the advancement of scientific medicine. But the progress of science, in the past, has often been retarded by premature announce-

ments of discoveries, and by confirmation of alleged discoveries by prejudiced or incompetent investigators. A spirit of scientific conservatism is, therefore, very desirable if one would judge for himself of the merits of a question which can only be decided upon experimental evidence.

Very truly yours,

GEORGE M. STERNBERG,

Surgeon-General, United States Army.

WASHINGTON, D. C., December 2, 1899.

OUR LONDON LETTER.

SANITARY DRAWBACKS AT LADYSMITH AS A CAMP-SITE—DYSENTERY DUE TO DUST—HOSPITAL SHIPS AND TRAINS—MILITARY SANATORIUM AT WYNBERG AMONG THE PINES—THE "MERCIFUL MAUSER" AGAIN—HOSPITAL SHIP OF AMERICAN LADIES ALMOST READY TO SAIL—ENTHUSIASTIC STUDENTS—OVATION TO MR. TREVES—DEATH FROM ANTHRAX IN A HAIR-CURLER—APPROACHING "BACK-DOWN" OF THE LEICESTER BOARD OF GUARDIANS—THE HUMANITY OF MEDICINE, AN AMBULANCE FOR THE BOER WOUNDED—ANOTHER DETERMINED MOVE FOR WELSH WATER. A ROYAL COMMISSION AS A "SHELF"—SEIZURE OF EGGS "FOR ELECTION PURPOSES."

LONDON, NOVEMBER 25, 1899.

THE reports from the seat of war as to the thoroughness and practical working of the medical arrangements continue to be most satisfactory, although there are vague rumors of a shortage in the medical corps of some of the last bodies of troops sent out. There appears to be comparatively little sickness among the troops, although now that the letters from the war correspondents of the various journals, which have not, like their telegrams, passed under the censor's rigorous eye, have had time to arrive, we learn what sanitary experts had suspected for some time, that the besieged Ladysmith is almost as undesirable from a sanitary point of view, as the eloquent silence of military experts upon the subject would indicate it is from a military standpoint. It lies in a flat valley, commanded for cannon or even rifle fire by high hills on all sides, which at the same time shut out the breeze. The water of the Klip River which flows past the camp and town, although at present abundant in quantity is of most unsatisfactory quality, so that the troops have been obliged to depend upon a supply from wells and reservoirs, which is even now being doled out to them by the pint. A good deal of typhoid and dysentery has occurred in the town and its garrison for the past two seasons, and although fortunately owing to the rigorous precautions indicated, no outbreak has as yet occurred among the troops, it will be seen that the conditions are far from ideal for a long siege. A curious and rather unexpected cause of dysentery is alleged to be the clouds of reddish dust which fill the air continually and work their way into every house and tent and utensil, and even all packages of foods other than tins, so that considerable amounts of it have to be eaten with every meal. Its mechanical effects alone are sufficient to produce an intense gastro-intestinal irritation, and even, it is alleged, erosions of the mucous membrane leading to hemorrhage, thus reminding one of the classic administration of pounded glass or finely chopped bristles for the same purpose by Chinese poisoners. The place is also swarming with ants that cut through every wool or vegetable fabric which they can reach, even the canvas flaps of the tents. Indeed, the place seems to have been selected, as is now frankly admitted by military men, more with reference to its relation to the railway lines and the river valleys, as a convenient basis for the accumulation of supplies and reserve troops, than as an ideal camp or post calculated to stand a siege, and, as was painfully obvious in our late war in such matters, the medical department was left totally unconsulted. However, by rigorous precautions and restriction of the use of the river water the place ough' to be kept clear from any serious epidemic for the few weeks, which at most now remain before it can be relieved.

On the other hand, the arrangements for the care of the wounded in places not invested appear to have been admirably carried out. Two large hospital ships are already actively at work meeting the trains at Durban and carrying the wounded and invalids down to Capetown, from which they are transferred to the new Hospital Sanatorium situated several thousand feet above the sea-level, up and around the pines, at Wynberg, which is said to be an ideal health-resort, and, indeed, a favorite sanatoria for consumptives. The last troop-ship sent out has accommodation in its hospital ward for no less than eighty patients, and will be promptly set to work in this capacity on its arrival at Durban.

Two special hospital-trains have been provided and officered, and a third is now in construction for the Red-Cross Society at Birmingham.

Upon the surgical side the reports continue most gratifying, both as to the character and complications of the wounds made by the Mauser bullet, and the effectiveness of the modern aseptic treatment, even in the field, which was so cheeringly demonstrated in our late Cuban campaign. Less than five per cent. of the wounded in the battles of ten days to two weeks ago have died, and of course this covers far the most critical period in ninety-nine per cent. of gunshot wounds. The small amount of pain actually inflicted by these wounds is almost as remarkable as the comparative absence of shock and of subsequent hemorrhage. Case after case is reported where men have been seriously wounded with but little to attract their attention except a slight numbness in the part penetrated, and one in which a soldier was shot completely through the face, from one cheek to the other, just below the floor of the orbits, with scarcely any sensation of pain whatever, and no disability except the loss of the sense of smell and blocking up of the nostrils by blood-clots. The fatal wound of General Symons was due to a jagged fragment of a shell and not to a bullet.

The preparation of the hospital ship provided by the American women in London is still proceeding with gratifying rapidity. Nearly $100,000 have already been subscribed, and prominent firms, not merely of chemists

but also of provision dealers, are vying with one another in the generosity of their offers of stocks of free supplies. A concert is to be held this week at the Claridge Hotel at which such well-known artists as Mr. De Wolf Hopper, Miss Edna May, and last but not least, Mr. Tod Sloan, will appear to contribute to the entertainment. The date of the sailing of the "Maine" has already been fixed for Saturday, November 25th.

One of the most exciting and enthusiastic scenes which has yet occurred in connection with the departures for the front was the farewell ovation accorded to Mr. Treves by the medical students of London, chiefly, of course, from his own hospital, the London, but also from University's, St. Mary's, and, it is reported, even from the dignified Bart's. Nearly 400 of them were present at the station, and the instant the hero of the hour appeared he was lifted shoulder high and carried in triumph by the cheering crowd to the door of the carriage reserved for him. The medical student, irrepressible and irresponsible creature as he is, in some respects, can usually be trusted to have his heart in the right place, and is fully capable of appreciating the serious sacrifice which it means to a man in the prime of his activity, like Mr. Treves, to volunteer in the service of his country for a campaign of such uncertain duration as the present, to say nothing of the risks and hardships of climate and of the field.

The death from that, now fortunately rare, disease in the human subject, anthrax is reported in London this week. The infection was from the usual trade source, although from a slightly different branch of the industry from that in which the contagion is commonly caught. The patient was a curler of horse-hair for the padding of furniture and filling of mattresses and so forth, while the disease most commonly occurs at a slightly earlier stage of the hair-handling process in those who are scraping the hides or handling the wool pulled from sheep skins, hence its original name, "wool-sorter's disease." The disease presented the usual furuncular appearance, and the patient curiously enough succumbed not to it directly but to the chloroform which was being administered in preparation for an excision operation at the London Hospital.

The world "do move" even in darkest Leicester. At last night's meeting of the Guardians, one of the lady members who has been most heroic and even hysterical in her announcement of "no surrender" to the enemy, notified her intention of introducing at the next meeting a motion to rescind the resolution refusing to appoint a vaccination officer. As the resolution was reaffirmed at its last discussion by a vote of only twenty-six to twenty-three, and two of these twenty-six are now confined to their homes by serious illness, it is quite possible that the next meeting of the Board will see the capitulation of the garrison in the last anti-vaccination outpost which is in open rebellion to the law. A policy of masterly inactivity and the wearing effect of time sometimes work wonders.

Few more beautiful illustrations of the humanizing and, in the highest sense, civilizing influence and possibilities of medicine have been given than the equipment, just completed, of a special ambulance to be sent to Pretoria for the care of the Boer wounded. The cost of this has been chiefly defrayed by an English citizen and late prominent government official at the Cape, Sir James Sivewright, and it is officered entirely by British subjects, many of whom, as would naturally be expected, are inhabitants of Cape Colony and of Dutch descent. There is practically no other department of human needs in which such a beautiful recognition of the higher sympathies and interests of humanity could have been accorded, and the memory of episodes of this description will do more to heal the wounds of war, after the struggle is over, than almost anything else that could well be devised.

The London County Council has again vindicated its title to be regarded as a courageous and trustworthy champion of the sanitary rights and safety of the people under its control by reintroducing its bill for the buying out of the present water companies and securing a permanent supply in the near future from the Welsh mountains at its late meeting. It is evidently not discouraged by the effect of the calm shelving of its bill for this purpose by the Government at the last session, and proposes to fight the matter out along this line until the disgraceful paresis which seems to have fallen upon the activities of Parliament, in this respect, is galvanized into a return of vitality. Never were the advantages of a Royal Commission as a factor in the great scheme of "How not to do it" better displayed. A commission was appointed more than two years ago, has held innumerable meetings and announced its readiness to report, but rested apparently absolutely content with that. And the Government has a perfectly effective bar to any proposed reforms in the water-supply in the answer that nothing can be done until after the report of the comatose commission.

The activity of the modern Medical Officer of Health appears to have no limits. Not content with insisting upon the rigid supervision of meat, milk, fruits, and vegetables, the energetic sanitary officer of Mile End in East London, Dr. Taylor, has invaded the hitherto sacred mystery of the "store egg." Hitherto the superannuated egg has been regarded with a singular apathy, from a sanitary point of view, and its chief usefulness appears to have been as an unfailing fund of material for the humorist. But Dr. Taylor proposes to take the joke seriously and has actually pounced upon and condemned at one fell swoop no less than 4000 of these interesting remains. Of course the humorist will get his turn out of even this, and it is already wickedly suggested by some daily papers that the eggs were merely being held in stock for election purposes, especially as a very active contest is imminent in a neighboring borough. It really is somewhat singular that so little has been done toward the inspection of the state of our egg-supply, probably however chiefly for the reason that everyone is supposed to understand the risk he runs in buying suspiciously cheap eggs, and that the changes are so offensive when present that there is little risk of their being used as a direct food

supply when really unfit. If, however, anyone will take the trouble to investigate half a dozen samples of cheap pastry or cakes, with the best sanitary inspector yet invented, his own nose, he will find abundant evidence that this does not interfere with their use for cooking purposes, and the action of Dr. Taylor must be most cordially commended.

SOCIETY PROCEEDINGS.

NINTH ANNUAL MEETING OF THE NEW YORK STATE ASSOCIATION OF RAILWAY SURGEONS.

Held at the Academy of Medicine, New York City, November 16th, 1899.

THE President's address was delivered by DR. THEODORE D. MILLS of Middletown and was entitled

THE RAILWAY SURGEON AND HIS RELATIONS TO THE RAILROADS.

Every year the number of railroads who do not employ their own corps of surgeons is growing less. This is as it should be. The railroads owe it to their patrons to give them the best possible service in case of accident. Such service cannot be obtained from the chance medical men that railroad employees may be able to find in the excitement immediately following an accident. Besides there is a sense of responsibility in the railroad surgeon himself, which makes him hurry at once on a call and familiarity with series of railroad cases gives him a skill in treating them. His arrangements are all made for just such emergencies and in every way the best interests of the company and its patrons are consulted.

It is the custom to say that corporations have no souls, but certainly the railroad corporations of to-day are not open to the charge of inhumanity. Those familiar with them know that not infrequently employees who have been in their service for a long period but who have become incapacitated for work because of ailments which bear no relation to their railroad employment, however, are taken care of when they can no longer be of service. A better feeling towards railroad companies is coming up in the popular mind, and the old idea that a company should be mulcted in damages to as large an extent as possible is no longer as popular as it was. Lawyers and, unfortunately, doctors who are a disgrace to their profession still join the forces to defraud companies by damage suits in which such important affections as nervous shock or spinal concussion play a large rôle. But there is no doubt that righteous sentiment in this matter in both professions and in the public mind is lessening the evil. Railroad surgeons can do a great deal to help on the good feeling which is leading to the eradication of this evil. Their testimony in such cases should be absolutely unbiased and should favor neither the company nor the patient. Every detail at the time of the accident being carefully noted so that a proper account of the case may be given.

Railroading itself has become less dangerous in late years. A few years ago it was a rare thing to find a brakeman of much experience with his hand uninjured. The patent coupler has done away with most of this. Other mechanical improvements have been equally beneficial. While the field for the employment of the railroad surgeon is becoming more limited, there is another important subject which progress in medical science has opened up for him. We realize now much better than we did how important is prophylaxis in the matter of contagious diseases. Railroad cars are very liable to be bearers of infections. The cars that run on the lines to our mountains carry a large number of tuberculous patients. Needless to say the germs of disease may be readily spread in this way. This new field for the railroad surgeon of disinfection and sanitation of cars and waiting-rooms is an important one. It is our duty to see that it is not neglected.

DR. B. FARQUHAR CURTIS of New York then read a paper, entitled

DISLOCATION OF THE SHOULDER WITH FRACTURE OF THE NECK OF THE HUMERUS. THREE CASES TREATED BY OPERATION.

Fracture of the neck of the humerus with dislocation of the upper fragment is a rare injury and yet it has been recognized by surgeons since before the Christian era. McBurney and Dowd collected 96 cases, in 69 of which the fracture was at the surgical neck, and 27 at the anatomical neck of the humerus. In my three cases the fracture was once at the surgical neck, once at the anatomical neck and in one a comminuted fracture, the bone being split through the tuberosity. Usually the head is dislocated into the axilla, but at least two cases have been recorded where it was found under the spine of the scapula. Up to recent years, the dislocated part has usually been left unreduced. A better result was often attained in this way than after simple dislocation. In many cases, however, the result was very unsatisfactory. At times there was necrosis of the dislocated fragment; at times the pressure exerted by it on vessels caused gangrene, while the pressure on nerves caused intense pain, growing discomfort and trophic disturbances in the arm.

Some method of treatment other than that of letting things alone was needed. The old method permitted union of the bone to take place and then the reduction of the dislocation was attempted. There are in literature altogether three doubtful successes out of ten cases. Another method was to reduce at once by traction and pressure of the fingers and then set the bone so as to permit healing of the fracture. Stimson, who advises this method, recommends gentle traction so as not to tear the periosteal strands that may still connect the two parts of the fractured bone. Needless to say, traction with the heel in the axilla should not be employed in these cases. Where gentle pressure will not accomplish the purpose of reducing the dislocation no undue violence should be used. In 80 cases treated by this method, 36 successes were reported. In many of them a new joint, a pseudo-arthrosis developed. Sir James Y. Simpson recommended the beginning of passive motion as soon as possible after the accident, in order to lead to the formation of such a pseudo-arthrosis. It gives a reasonably good functional

result. The method is especially of service in cases where the bone has been broken in an attempt to reduce an old dislocation.

The third method of treating these cases is by resection and removal of the upper fragment. Curtis performed this operation in one of his cases, a young man of twenty-nine who, in a fit, fell from a wagon and was brought to Bellevue Hospital. A bony mass was found in the coracoid region. There was no deltoid flattening, some little shortening and the elbow could be brought to the side. The Roentgen-rays showed the glenoid cavity empty and seemed to show a fracture with the head of the bone displaced. The joint was cut down upon comminuted fragments of the head together with a portion of the greater tuberosity removed so as to avoid too great callous building. The result was excellent. As may be seen, the patient even when his scapula is firmly held to the chest on the side can raise his arm to the vertical position. Internal rotation is good while external rotation is lost. As teamster, he himself is of the opinion that he is able to use his arm quite as well as before.

The fourth method of treating these cases is by open arthrotomy. Until seven years ago this method was not mentioned. An American surgeon, Stevens of Ft. Wayne, was the first to perform the operation. Porter of Boston did it afterwards, and then McBurney of New York invented the hook for rotation and traction so as to get the bone into place. In one of the two cases in which Curtis did an open arthrotomy he wired the ends of the bone together and then reduced the dislocation. Four weeks after the operation there was very little movement and practically no power of rotation. Now, as may be seen here, the arm is nearly as good as ever. The result in a resection may be practically as good, but it is not as ideal an operation as the open one. Of all the operations of this kind that have been done there has been about ten per cent. of mortality. This, of course, is recognized as a high mortality, and would of itself be enough to deter surgeons from doing the operation. A consideration of the fatal cases, however, shows that in practically all of them other causes besides the operation itself were either directly responsible for the death or at least were active factors in bringing it about.

The rule in these cases is if the fracture and dislocation can not both be reduced satisfactorily to operate at once. It does not add to the danger, while the operation is easier. After the operation movement is begun without delay. Such voluntary movement as can take place beneath the shoulder-cap dressing are permitted in from ten to fourteen days after operation. After a fracture of the anatomical neck passive motion is begun three weeks after the operation; after fracture of the surgical neck five weeks may elapse.

In discussion DR. MANLEY of New York said that he had never seen fracture of the anatomical neck or the lesion described by Dr. Curtis except after efforts at reduction of a dislocation. He asked if any such efforts had been made in this case. As to the operation in general, our methods of bringing about reduction after dislocation are as yet so imperfect and may be interfered with so much by spasm of the tissues after the injury that we can not be sure when a dislocation is really irreducible. All have seen cases where the dislocation absolutely resisted all efforts one day, yet yielded readily the next. Spontaneous reduction after long unsuccessful efforts was not unknown. Ten-per-cent. mortality is high, and this has occurred in the best hands and in hospitals where the circumstances are most favorable for success. It is probable, then, that this method of treatment will not become popular with the profession, especially as the functional results even when the dislocation remains unreduced, are in many cases not at all unsatisfactory.

DR. BURNS of Long Island City said that ten-per-cent. mortality is certainly high for the operation. It would assuredly be higher in general practice. Its recommendation then seems inadvisable. With careful treatment excellent functional results can be obtained without the danger involved in the operation.

DR. CURTIS said, in concluding the discussion, that the case in which he had done resection had been one in which the comminution of the head of the bone had rendered it advisable in order to avoid excessive callous formation and consequent anchylosis. As to the loss of the function of the external rotaters he was unable to explain it. No efforts had been made in any of the cases at reduction, so that the fracture was not due to this cause. He thinks ten-per-cent. mortality serious, but even with this the operation is much less serious than is usually said in the text-books, and its prognosis is continually improving with the improvements in surgical technic. There is no doubt that with care the mortality can be reduced so that it will not exceed that for suture after fractures of the patella.

DR. ROBERT T. MORRIS of New York then read a paper entitled

WHERE HYDROGEN DIOXID IS HARMFUL.

DR. MORRIS said: There are three classes of cases in which hydrogen dioxid may easily do harm, and it is well to consider the reasons therefor, as they will help to give the indications for the use of hydrogen dioxid in general. These cases are the ones in which the drug often does good when used judiciously, but harm when used to excess. They are, first, compound fracture that has become infected; second, diphtheria, and, third, appendicitis. In all of these cases the hydrogen dioxid may do harm if used injudiciously. In compound fracture where pus burrows the hydrogen dioxid will follow it as far as it goes. But if it is used every day it produces mechanical distension of the sinuses, it destroys the pus, but it also destroys the new plastic lymphatic tissue which is being made ready for the formation of connective tissue, and thus keeps the fistula open for a long time. If after awhile some stimulant preparation, such as a weak solution of the silver salts or balsam of Peru, were used they would bring about closure of the sinuses. It saves life at first by averting septic crises, but what is a virtue at one stage becomes vicious later, and it delays convalescence.

In diphtheria it undoubtedly removes the patch of co-

agulated necrotic tissue in the midst of which microbes are growing and producing the toxins that cause the constitutional symptoms of the disease, but it also injures the cells of the mucous membrane. After the application of hydrogen dioxid for several days the superficial epithelium becomes less resistent, the infection spreads, and the false membrane is found all over the throat.

In appendicitis the use of hydrogen dioxid at the beginning when the abscess is first opened, enables the surgeon to get rid very effectally of toxin-bearing fluids. But, as in the compound fracture, it hinders repair by destroying the new plastic lymph and keeps the fistula open for a long time. Very often in these cases of persistent fistula where hydrogen dioxid has been used right along the only treatment that is needed to bring about closure of the fistula is to put on a pad and leave the patient alone.

DR. BELL said that the use of hydrogen dioxid in diphtheria carried with it certain dangers, which it was well to bear in mind. In one case recently he had seen a fatal result after the use of peroxid, though tracheotomy was done immediately when symptoms of suffocation ensued. At the autopsy it was found that almost a complete cast of the larynx had been loosened by the hydrogen dioxid and then aspirated beyond the bifurcation of the trachea, where it caused suffocation. In another case a large patch of false membrane was loosened in the same manner, and while it did not cause a fatal issue it was aspirated into the trachea and only gotten rid of after a severe attack of suffocation and coughing.

DR. STILLING of Concord said that a warm solution of formalin one-half per cent. has in his hands proved the best antiseptic for use in the cases in which hydrogen dioxid was formerly much recommended, but it is now being generally abandoned. It has practically none of the disadvantages of the peroxid, does not destroy the granulation tissue, nor keep sinuses open, and yet has all the antiseptic effect of the former drug.

In concluding the discussion, DR. MORRIS said that his experience had taught him to use hydrogen dioxid for the first dressing of a wound and afterwards as a routine practice to employ other antiseptics. If there was no septic reaction the other antiseptics were continued. If there were fever, rapid pulse, and some constitutional symptoms indicating absorption of septic material, then hydrogen peroxid was used a second or even a third time. With reference to fistulæ, some of them remain open for a month despite any treatment that may be used. Some for several months. In one recent case the fistula remained open for two years, the whole cecum sloughing out. When fistulæ will close and when they should be treated by letting alone rather than by active intervention only wide experience will help the surgeon to determine.

As to formaldehyd, while it is undoubtedly an excellent antiseptic, there are certain features in its use which do not promise as well as the employment of hydrogen dioxid. Thick masses of infected lymphatic tissue, for instance, will not be penetrated by the formaldehyd. Necrotic tissue also resists its antiseptic effect. Blood coagula are not dissolved and infective agents may germinate in the midst of them. The hydrogen dioxid forces its way because of the boiling action incident to the setting free of gases when in contact with albuminous substances and so penetrates every part where there is pus. The mere mechanical washing out with formaldehyd will never accomplish this.

The next paper was read by DR. H. JOHN L. EDDY, and was entitled

EMERGENT SURGERY.

DR. EDDY dwelt on the necessity for being able to make use of whatever means might be at hand in emergencies in order to make surgical measures as nearly aseptic as possible. The engine will supply hot water for this purpose, and one must learn to pick out the most intelligent among the bystanders as an assistant. Care is very important at the first dressing, because on it to a great extent will depend the aftercourse of the case. If the first dressing be carefully applied, there would be no need to open amputation wounds or other aseptic operation sites before eight or nine days have passed. It is important in these operations done at the place of the accident to pull down the nerves and cut them off some distance above the line of amputation in order to avoid their subsequent entanglement in the scar.

DR. BURNS of Long Island City said in discussion: Much can be done now in the way of carrying aseptic dressings and aseptic instruments with one. Towels and gauze and suture material thoroughly sterilized and wrapped in wax paper can be easily obtained and carried without occupying much space. Compressed sponges are an important addition to the railway surgeon's armamentarium. Pledgets of cotton are liable to be infected, or cannot easily be rendered aseptic. These compressed sponges take their place very well. Sterilizers are made so small now that they can be carried with one, and an alcohol lamp completes the outfit. Thus the sterilization of instruments may be accomplished absolutely independent of circumstances.

DR. MORRIS said that for emergency cases he found asbestos wool an excellent dressing. It can be easily rendered absolutely aseptic by burning it. Where operations are done at a distance from all surgical conveniences this asbestos wool may be taken out every day and heated on a shovel so as to become absolutely aseptic and then replaced.

DR. MANLEY of New York then presented

SOME INTERESTING CASES INVOLVING BONE LESIONS.

The first was a case involving a fracture of the upper fourth of the ulna with a dislocation of the head of the radius. The muscles of the hand wasted after the accident, motion was very much restricted, and there was absolutely no supination. The hand was cold, perspiration was profuse, vitality of the skin was greatly lowered. The location of the lesions pointed to an involvement of the median nerve. Several surgeons have discouraged operative interference. An incision showed that the bones were welded together by solidified callous in the upper part. This was split up, the head of the radius was found to be pressing on the median

nerve and was sawed off. The functional result is, as may be seen, excellent.

In a second patient, a freight conductor, a car passed over the upper part of his arm. There was a fracture in the upper third of the radius and ulna, a fracture of the lower fourth of the humerus, a fracture in the upper third of the humerus. My rule is never to amputate, by primary operation, no matter how unpromising the case looks. This man's arm has been saved to him by this rule, and will undoubtedly be of a good deal more use than any prothetic apparatus would be.

In another patient, also a freight conductor, the accident happened exactly as did the previous one, by tripping over one of the switch conduit boxes in the yards. It was his foot instead of the arm that was run over. A typical amputation by one of the classical methods was not attempted, but all the tissue possible was saved. The result, you see, is a good, serviceable stump. These cases all plead for more conservative work in emergency surgery.

REPORT OF MEETING OF THE LABORATORY COMMITTEE OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

Held in the Laboratory of the Medical Sciences of the University of Minnesota, Minneapolis, Minn., October 30, 1899.

PROFESSOR W. H. WELCH of Johns Hopkins University, the Honorary Chairman, opened the meeting with an address in which he called attention to the benefit to be derived from the meeting of the laboratory workers at the Association. He then spoke of certain lines of work that he deemed worthy of the committee's consideration.

He suggested the value of further investigations with reference to the danger that really results from infection from tubercular cattle, and to ascertain amid varying exaggerated and underestimated reports the exact degree of danger. Concerning typhoid fever, he deplored the experiences during the recent war, the mistakes in diagnoses, and the absence of application of hygienic principles, pointing out the necessity of better methods of diagnosis of typhoid and malarial diseases, and of the teaching of hygiene in the medical schools. He mentioned the fact that the problem of disinfection is a subject of constant interest, and that it remains to be proved whether in certain diseases it is necessary to disinfect at all.

He touched upon the question of sewage disposal by natural methods, and then indicated the broad biological subject of the differentiation of bacteriological species.

STUDIES UPON THE DISTRIBUTION OF CERTAIN VARIETIES OF DIPHTHERIA BACILLUS.

These papers were presented by DRS. WESTBROOK, WILSON, and MCDANIEL of Minneapolis. Out of 263 children in health that were examined, twenty-five per cent. showed no diphtheria-like organisms in either nose or throat, while seventy-five per cent. showed the nose and throat infected. In classifying diphtheria bacilli they fall into three groups depending upon microscopical appearances. Group 1, includes typical diphtheria bacilli; group 2, even staining and irregular bacilli; group 3, short, even bacilli. The bacteria of group 2 were more frequently found than those of group 1. Infection of the nose was found to occur more frequently than infection of the throat, in the proportion of ninety-four per cent. and sixty-one per cent. respectively. The bacteria of group 1 were more frequently found in the throats, and those of group 2 in the noses. Another examination of 50 to 100 synchronous throat and nose cultures gave somewhat surprising results in the large percentage of typical granular and irregular diphtheria bacilli found, while even staining varieties were more numerous.

The methods of recording the morphological characteristics of diphtheria-like micro-organisms studied were as follows: The making of synchronous nose and throat cultures of healthy children living under similar conditions in several State institutions, and of healthy children in a town where diphtheria was never absent, and of the public-school children in three towns of the State.

In all of these cases there was a percentage of typical granular bacillus diphtheria, particularly in the nose. Types resembling the atypical form were met with much more frequently. In comparing the results of examinations from various sources the following points were noted: Each individual type was found to persist in a given pure culture throughout several generations, and to be present in all stages; the tendency of each type to develop a few individuals of one or several of the other types was marked; changes from non-granular forms of the same size and conversely were, perhaps, not more frequent than changes in form and size with preservation of the original characteristic staining reactions.

A STREPTOTHRIX FORM ISOLATED FROM WATER RESEMBLING DIPHTHERIA BACILLUS

was presented by DR. J. J. MCKENZIE of the Board of Health of Toronto. In the course of the examination of a sample of water there appeared in the plates small colonies with fringed margins, which proved to be a streptothrix. Its growth, which was followed on all the ordinary media, was at first slow, but after several transfers it became more luxuriant, especially at 37° C. On glycerin-agar and blood-serum the growth had many of the streptothrix characters. In bouillon and on potato it did not grow well. It did not ferment lactose or glucose. Its growth on potato was not luxuriant, and it showed a tendency on the latter to break into shorter segments until it was almost coccus-like. It proved to be but slightly pathogenic for guinea-pigs.

BRANCHING DIPHTHERIA BACILLI

were described by DR. HIBBERT HILL of Boston. The indefinite "ray fungus" of actinomycosis, after various vicissitudes, became classified as a definitely branched form, a streptothrix. The similarity in many respects of the bacillus tuberculosis to the ray fungus has obtained

for the latter recognition as a branched organism, it being in all probability also a streptothrix. Already a common percentage for both organisms is suspected. The organism for leprosy and the organism of glanders also sometimes show branching. The occasional branching of the diphtheria bacillus has been recognized for years. Described at first as a peculiarity, explained as a result of degeneration, it is now beginning to be recognized as a definite characteristic. The organism of diphtheria seems likely before long to be removed from the class bacillus, and placed in the class streptothrix, as a degenerate form of this genus. The fact that branching occurs at times, in fifteen-hour cultures, as well as in much older cultures, is already established. It may occur on nutrient agar as well as on Loeffler serum. An important point is to determine the frequency of its occurrence.

The papers treating of diphtheria organism were spiritedly discussed both from the standpoint of the practising physician and the bacteriologist by DRS. WELCH, WESSBROOK, HILL, RAVOLD, and FIELD.

THE SIGNIFICANCE OF CERTAIN GAS-PRODUCING BACTERIA OF NON-COLON TYPE IN SANITARY ANALYSIS

was the subject of papers prepared by H. L. RUSSELL, and V. N. BASSETT, of Madison. Among other things they said that to insure the elimination of other species that can be cultivated at blood heat, it is better to isolate in pure culture the gas-forming species. The method employed is to make a litmus-lactose agar culture of a sample of water, and if acid colonies develop, transfer these to glucose fermentation-tubes. The separation does not usually require more than thirty-six hours and from the separated colony on the litmus agar glucose free broth is inoculated for the indol test, cultures in glucose and lactose, bouillon, litmus-milk and gelatin slabs are made. These five subcultures will permit of a differentiation in about two to three days more.

Of leading importance in this differentiation is the character of the fermentation in different sugars. Where gas is produced, it is a mixture of CO, and an explosible residue that is generally H. The relation of these gases to each other in many species of aerogenic bacteria is fairly constant. Theobald Smith has designated this relation of H/CO as the gas-formula. The characteristic relation for the colon type of organism has been shown by him as well as others to be H/CO-2/1. The classification on the basis of their gas formula of many of the aerogenic forms found in water supplies shows at once two well differentiated groups. Those having a formula of 2/1 as presented by the colon bacillus, and those having an inverted formula of 1/2. These two classes are often represented, the first one in those waters that are polluted with fecal discharges; the second in open waters in which the possibility of sewage pollution is not absolutely prevented, but in which the more probable origin of the gas-forming organism is from upper soil layers or decomposing vegetable or animal matter. Transitional types are also more or less frequent. Sometimes the gas-formula exceeds 2/1; then, again, the amount of hydrogen equals the CO, making the formula 1/1.

A continued study of gas-forming bacteria from water leads us to believe that some types of these groups are subject to considerable variation when cultivated on artificial media for a length of time. In our experience this tendency to variation has expressed itself mainly in the fermentations function, more especially as to the amount of gas produced, although considerable change in gas formula has also been noted. This has been more apparent in the 1/2 and the transitional or 1/1 type than it has in the distinctly colon class. The 1/2 group seems to be the most variable in its gas relationship, the 1/1 group varying in time, but more slowly.

While an inspection of the gas formula of those types in which the H is equal to or less than CO at once serves to differentiate them from the colon type, those species possessing the formula 2/1 or thereabouts cannot safely be classed as colon on this basis alone. In this case the other cultures aid in determining colon affinities. The determination of the gas formula is of prime importance in determining the relation of any aeroganic organism. While it cannot settle the question positively whether an organism is colon-like or not, the presence of an aberrant colon formula as 1/1, or more especially 1/2, signifies the non-colon relation of the bacterium.

NOTES ON BACTERIAL WATER ANALYSIS

by E. O. JORDAN and E. E. IRONS of Chicago included a discussion of the question of transportation. It seems to be assumed by some that a sample packed in ice will arrive at its destination in substantially the same condition as when it was drawn from the source. There are however conditions in which these assumptions prove strikingly unwarranted.

In one instance three samples of polluted river water of a temperature of about 28° C., were plated immediately after collection and gave respectively 535,000, 412,000, and 329,000 colonies. The bottles were at once packed in ice and shipped to Chicago. They did not arrive until forty-eight hours had elapsed; the temperature of the water case was 21° C., and the numbers obtained by plating—namely, 54,500, 50,500, and 73,500—were much lower than the initial numbers. There is no escape from the conclusion, therefore, that in some cases packing in ice is followed by a rapid and marked decline in the number of colonies. It sometimes occurs that instead of a decline in numbers in water samples packed in ice, a considerable increase may be observed.

The initial temperature determines to a large extent the course of events. In the warmer seasons of the year, the vitiation of numerical results by transportation probably reaches its maximum, whether the water sample be shipped without any attempt to modify its temperature, or whether it be packed in ice. The influence of ice-packing upon such colon bacilli as may be present in polluted water does not appear to be injurious.

In regard to dilution it is found that results obtained by plating 1/10 c.c., for example, will be found to

agree less closely with one another than those obtained from 2/1-10 dilution with sterile water; but if there are more than about 100 colonies to the plate, there may be difficulty arising from the suppression or obscuration of colonies.

Not only is the exact reaction of media important, but variations in the compositions of the peptones used have been shown to be of great significance. Quite recently a paper by HESSE and NIEDNER (*Zeitschr. f. Hyg.*, xxix, p. 454) has appeared in which a substance composed largely of albumose and known by the trade name of Nahrstoff Heyden, is recommended as a bacterial nutrient. We have recently procured some Nahrstoff Heyden, and have obtained with it numerical results much higher than those secured with the ordinary nutrient media.

SOME POINTS ON THE DIFFERENTIATION AND CLASSIFICATION OF WATER BACTERIA

were present by GEORGE W. FULLER and GEORGE A. JOHNSON of New York.

This subject involved the consideration of the following points: Vitality of the organism at time of cultivation for classification data; composition and preparation of culture media; temperature of cultivation; period of cultivation. With the view to eliminate in a measure, if possible, the effect of debilitation of the bacterial cells, which may exist prior to their isolation from water, the pure culture is subjected to a preliminary cultivation. It is then transplanted to nutrient broth; from the latter, after three days' development at 20° C. to gelatin plates; thence, after the same period and temperature of cultivation, back to an agar-tube; and finally after the agar-tube has developed for three days at 20° C. the conventional media are seeded.

A chart of bacteria in the Ohio River water at Cincinnati represented tests which gave clearly defined results capable of expression by the plus or minus sign. The second feature of the chart was the arrangement of species of bacteria into thirteen groups: (1) Fluorescent forms; (2) red chromogenic forms; (3) orange chromogenic forms; (4) yellow chromogenic forms, (5) violet chromogenic forms; (6) non-fluorescent, non-chromogenic, gelatin liquefying bacteria, forming proteus-like colonies on gelatin; (7) non-fluorescent, non-chromogenic, gelatin liquefying bacteria, forming subtilis-like colonies on gelatin; (8) non-fluorescent, non-chromogenic, non-proteus, and non-subtilis-like bacteria, which liquefy gelatin and ferment carbohydrate with the production of gas; (9) bacteria conforming to 8, except that fermentation of carbohydrate takes place without the formation of gas; (10) bacteria conforming to 8, except that no fermentation of carbohydrate occurs; (11) non-fluorescent, non-chromogenic, non-gelatin-liquefying bacteria, which ferment carbohydrates with the production of gas; (12) bacteria conforming to the specified characteristics of Group 11, except that fermentation of carbohydrate takes place without the production of gas; (13) all bacteria comforming to 11, except that no fermentation of carbohydrate occurs. The colors embraced in the four chromogenic groups may be described as red, color produced by bacillus prodigiosus on agar; yellow, color produced by the growth of sarcina lutea on agar, with the dividing line between this and the orange group at the yellow-ochre has produced bacillus ocraseus on agar; orange, this color begins just below the yellow-ochre stage. The true orange is the same as that produced by bacillus aurantiacus on agar; violet, the same as that color produced by the growth of bacillus violaceus on agar.

THE QUESTION OF STANDARD METHODS FOR THE DETERMINATION OF THE NUMBERS OF BACTERIA IN WATERS

was discussed, and attention called to the advisability of universally adopting a system in connection with the composition of culture media; reaction of the media; dilution of sample of water, if such be made, and the period and temperature of development.

With a view to obtaining as complete development of water bacteria, and in a shorter time than is now the case, the most promising results have been obtained by the use of a simple medium, consisting of ordinary meat infusion, with twelve per cent. by weight of gelatin, but with the precaution that the medium shall not be overheated.

In repeated instances at Louisville and Cincinnati this medium yielded results in two-days' development at 20° C., which are at least fifty per cent. higher than those obtained from the regular nutrient gelatin after a period of three-days' development at the same temperature.

THE OBSERVATION OF ODOR AS AN ESSENTIAL PART OF WATER ANALYSIS,

was spoken of by DR. GEORGE C. WHIPPLE of Brooklyn, N. Y.

The "cold odor" is observed by shaking the sample in a partly-filled 2-liter bottle. The "hot odor" is observed by heating 200 c.c. of the sample in a beaker covered with a watch-glass to a point just short of boiling, and making the observation as soon as the water has cooled sufficiently.

The following scale of terms for estimating the intensity will be found convenient: 0. None. No odor. 1, Very faint. An odor that would be scarcely perceptible to the consumer, but one that could be detected in the laboratory. 2, Faint. An odor that might be detected by the consumer. 3, Distinct. An odor sure to be detected by the consumer, and one that would make the water looked upon with disfavor. 4, Decided. An odor that would force itself upon the attention, making the water almost unpalatable. 5, Very strong. A term reserved for extreme cases where the odor is very intense. By using this numerical scale in connection with abbreviations of the adjectives denoting the quality of the odors the descriptions may be completely recorded, and made to form a part of the analysis. Thus, 2vg would mean that the water had a vegetable odor that might be detected by the consumer; 3f, that the water had a fishy odor sure to cause remark by the consumer, etc. The following are some of the common adjectives likely to be

used. Each may be abbreviated by a single letter: V, vegetable; e, earthy; p, peaty; a, aromatic; g, grassy; f, fishy; m, moldy; u, unpleasant; d, disagreeable.

After a thorough discussion of this subject DR. SWARTS of Providence moved that a committee be appointed to present at the next meeting a standard formula for the analysis of water which should be the recommended method of analysis of this Association.

DR. WELCH, the Chairman, announced the following names for that committee: Mr. George W. Fuller, Professor H. L. Russell, Professor E. O. Jordan, Dr. Adolph Gehrmann, Dr. Wyatt Johnston, Mr. G. C. Whipple, and Mr. H. W. Clark.

THE IDOMETRIC DETERMINATION OF SMALL QUANTITIES OF CARBON MONOXID,

by DRS. LEONARD P. KINNICUTT and GEORGE R. SANFORD.

The method of determining carbon monoxid by oxidation to carbon dioxid has not, until the past ten years, received much attention. This oxidation can be accomplished by the use of many oxidizing agents, but of all those that have been proposed iodin penta-oxid is, from our experience, the one that can best be used for the determination of small amounts of carbon monoxid.

The apparatus used was, with slight changes, that described by Nicloux. Twenty-five grams of iodin penta oxid was placed in a small U tube, which was suspended in an oil bath and connected with a Wolff blood-absorption tube containing ½ gram of iodid of potassium dissolved in 5 cubic centimeters of water. The tube containing the iodin penta-oxid was also connected with two U-tubes, one containing sulphuric acid, the other small pieces of potassium hydrate, so as to remove from the air to be analyzed (before it came in contact with the iodin penta-oxid) all unsaturated hydrocarbons, sulphid of hydrogen, sulphur dioxid, and similar reducing gases. In all the experiments the oil bath, in which the U tube containing the iodin penta-oxid was suspended, was heated to 150° C., as preliminary tests showed that the reaction was not a quantitative one at lower temperatures.

DISCUSSION.

PROFESSOR ROBINSON, Brunswick: It is well known that those inspectors engaged in public health work have been unable thus far to detect the presence of this gas in the air of rooms, and if they are able to detect it by the method of Dr. Kinnicutt a great step has been taken in advance.

DR. WELCH: There is great danger from gas leakage from a stove and from gas. It is no doubt injurious to the health of occupants of rooms, and cannot be readily detected.

PROFESSOR RICHARDS, Boston: In 1883 and 1884 a great deal of work was done in our laboratory with this method, using a modification of it. I have used that at various times since in cases of contamination of air of recitation rooms.

THERAPEUTIC HINTS.

For Dysmenorrhea.—

℞	Nitroglycerin	gr. $\frac{1}{2\frac{1}{5}}$
	Spiritus	*m.* xx
	Aq. dest. . . . q. s. ad.	℥ iiss.

M. Sig. Two teaspoonfuls every fifteen minutes until physiological effects of drug appear.—*M. G. Price.*

For Severe Epistaxis.—

℞	Gelatin	part i
	Normal salt sol.	part xvi.

M. Sig. External use. Absorbent cotton is saturated with this solution, and used as a nasal plug. An aseptic coagulum forms which checks further bleeding.—*Da Costa.*

For Acute Bronchitis.—

℞	Ammonii carb.	gr. xxx
	Tinct. hyoscyami	℥ iv
	Codeinæ	gr. ii
	Syr. prun. virg.	℥ iv
	Aq. camphoræ . . q. s. ad.	℥ iv.

M. Sig. One teaspoonful every two hours.—*Hersvirsch.*

For Pediculosis Capitis.—The simplest and most effective way of getting rid of both parasites and nits is to shave the head and scrub it with soap and water. When for reasons of age or sex it is desirable to preserve the hair, it can be powdered with powdered pyrethrum, staphisagria, or sulphur, which will kill the lice. Nits and adults are both reached by hot vinegar or camphorated alcohol, or the following solution, which is highly recommended:

℞	Bichlorid of mercury . . .	1 part
	Vinegar	300 parts.

Another prescription is that of DESCROIZELLE:

℞	Tinct. pyrethri	℥ i
	Tinct. rosmarini } aa.	
	Tinct. cinchonæ } . . .	℥ ss
	Spiritus	℥ i.

M. Sig. External use.

An alcoholic solution of naphtha is also said to be very effective. Kerosene and the tincture of delphinium are old stand-bys, but the former is objectionable on account of its odor and greasiness, and the latter on account of its expensiveness.

Ointment for Rheumatism.—

℞	Ac. salicyl. pulv.	℥ i
	Ol. terebinth.	℥ i
	Lanolini	℥ i.

M. Ft. unguentum. Sig. Rub into the skin for five minutes after cleansing it with soap and water.—*Husson-*

For Prostatitis.—

℞	Ichthyol	℥ i
	Ol. theobrom.	℥ vi.

M. Ft. suppos. No. xii. Sig. Use one suppository at night and one in the morning after defecation. Under this treatment the pain, sense of pressure, etc., are said to decrease rapidly, and the hypertrophy to become sensibly diminished.—*A. Freudenberg.*

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ORIGINAL ARTICLES.

THE TREATMENT OF PNEUMONIA AS BASED UPON RECENT VIEWS AS TO ITS PATHOLOGY.*

BY ANDREW H. SMITH, M.D.,
OF NEW YORK.

IN using the word pneumonia I wish to restrict it absolutely to the form variously designated as lobar, fibrinous, or croupous pneumonia; the form that in typical cases is ushered in abruptly by a chill accompanied with fever, which fever after a course of from four to nine days, if the patient is to recover, ends suddenly by crisis.

For the sake of brevity I will quote, from a paper recently contributed by me to the "Twentieth Century Practice," my views as to the sequence of events taking place in an attack of pneumonia:

"1. The occurrence of some cause of depression, either local or general, which favors the germination of pneumococci, already present in some one of the smaller tubes.

"2. The formation of a colony that spreads until it reaches the group of air vessels that are terminal to the tube in question.

"3. The setting up of an irritation in these vesicles, causing a fibrinous exudation, an emigration of leucocytes, and a diapedesis of red cells from the functional capillaries.†

"4. The formation of a colony of pneumococci in the medium afforded by this exudate.

"5. Arrest of the blood stream in the functional capillaries, followed by accumulation of free pneumic acid in the parenchyma of the affected area.‡

"6. Overflow of exudate into neighboring lobules, starting the process in them also.

"7. Arrest of germ growth by exhaustion of the medium and the accumulation of free acid in the tissue of the lung. Up to this time there has been a constant formation and absorption of toxin.

"8. Retrogressive changes in the exudate preparatory to its removal by absorption.

"9. Probably, in this latter process, formation of an antitoxic principle.

"10. Entire removal of the exudate and restoration of the vesicle to its normal condition.

"11. Resumption of the functional capillary circulation."

First, a few words as to what pneumonia is not, and then a few as to what it is. Pneumonia is not an inflammation of the lung. You can create a pneumonitis at will in any of a dozen or a hundred ways. There is only one way in which you can produce a pneumonia. You may bruise, tear, pierce, or scald the lung, you may force acrid gases into it; nay, you may introduce any foreign substance into it, including, with one exception, any conceivable pathogenic organism, and you will not get pneumonia as the result. You may get inflammation, suppuration, even gangrene, but it will not be pneumonia, and it will not have the clinical history of pneumonia. But there is just one thing that if introduced into the parenchyma of the lung will produce pneumonia always and without fail, and that is the pneumococcus. If you inject a little active pneumonic sputum through the chest wall into the substance of the lung, you will inevitably cause genuine pneumonia with all that clinically belongs to it. These facts are sufficient to differentiate between pulmonary inflammation and pneumonia, but there are other facts in the history of the latter and especially in the occurrence of crisis, which are equally significant but which I need not stop now to consider.

Nor is it enough to admit the infectious nature of the disease and to define pneumonia as an inflammation excited by the presence of a specific parasite. The parasite is there unquestionably, but it does not excite inflammation. Inflammation is a perverted nutrition, but in pneumonia the nutrition of the pulmonary parenchyma does not suffer. At the most there is only a certain amount of desquamation of the epithelium, the walls of the air-cells remaining intact and ready to resume their function the moment the exudate is removed from within the cell and stasis in the functional capillaries is relieved. There is nothing left that represents the effects of inflammation, no interstitial deposit, no

* Read before the New York Academy of Medicine, November 2, 1899. For discussion, see p. 814.

†The walls of the pulmonary capillaries being adapted for the transmission of gases possess an extreme tenuity not equalled elsewhere in the body. Moreover, they are separated from the alveolar cavity only by a single layer of pavement epithelium which affords them almost no protection or support. Hence they are exposed to the full current of the irritation caused by the micro-organism which invades the air-cell and of the toxin it produces. Under this irritation the capillary wall undergoes a partial degeneration which favors the escape through it of the various elements that go to make up the pneumonic exudate.

‡As to this accumulation, see p. 44 of vol. xvi, "Twentieth Century Practice of Medicine." Throughout this paper the above-mentioned article has been freely used.

obliteration of vessels, no loss of substance, no new formations. The tremendously active process that has been going on in the lung, enough in any other organ to have spoiled the structure for future use, has vanished and left no trace behind. And for this what have we to thank? Simply the independent nutrient circulation heretofore entirely overlooked in its relation to the pathology of pneumonia. While the functional capillaries under the specific irritation caused by the parasite have been permitting, as we have seen, the exudation of fibrin, the emigration of leucocytes, and the diapedesis of red corpuscles into the air-cells, until at last the pressure of the alveolar contents has become more than the thin walls of the right heart could overcome, and complete stasis of the functional circulation has taken place, the sturdy left heart has been taking care of the nutrition of the suffering area, and pumping its blood regularly and steadily through the nutrient capillaries. Had it failed for a moment to do this the battle would have been lost, and wholesale necrosis would have been the inevitable result.

Here then we see at the same time, and in the same area, the action of the right heart completely suspended and the action of the left heart intact. From the nature of the case this could take place nowhere else than in the lung, *and this removes pneumonia out of the category of diseases for which analogous conditions can be found in other parts of the body.* For this reason all our notions of inflammation in general are *wholly inapplicable* to the condition in question.

But how, it may be asked, do we know that there is this restriction of the process to the functional circulation? How do we know that both circulations are not involved? The answer to this is found in anatomical conditions easily demonstrated. In the pneumonic lung we find the capillaries which are continuations of the branches of the pulmonary artery completely thrombosed, and this thrombosis extends back toward the heart until the pulmonary branch is reached that goes to the affected lobe. If the entire lung is involved the thrombus will extend back to the bifurcation of the pulmonary artery. Not infrequently the clot grows out into the lumen of the latter vessel, and sometimes this projecting portion breaks off and is carried by the blood current into the unaffected lung, producing immediate death.[1]

Contrast with this the condition of the nutrient capillaries derived from the bronchial arteries. These are found completely free, so that the blood might circulate through them unhindered and supply the parenchyma of the lung without interruption. It is true that in a small number of cases a branch of one of the bronchial vessels becomes obstructed, and then we get a corresponding area of gangrene, just what would befall the whole affected portion of the lung if instead of a pneumonia we had a pneumonitis of the same colossal proportions.

If, then, in pneumonia we are not dealing with an inflammation, how are we to characterize the local process? The answer to this is that we have a process of germ culture going on in a culture medium, which medium is supplied from vessels that do not participate in the nutrition of the part, but at the same time are susceptible to the action of the specific irritant furnished by the specific germ in question. Each air cell thus becomes in effect a tiny test-tube in which a colony is growing, the exudate serving as a culture medium.* It is this culture that constitutes the essence of pneumonia. The complicated manifestations that complete the clinical picture are epiphenomena. Why this peculiar local reaction should follow this one form of irritation and no other we cannot tell, any more than we can tell why the skin should react to the poisonous emanation from the rhus toxicodendron in a manner different from its reaction to all other forms of irritation. But medicine is full of similar pathological, as well as biological, puzzles.

Two of the epiphenomena attending the culture process in the lung are of extreme importance, constituting singly or together the chief menace to life. These are, first, the infection of the system by the toxin formed in the lung, and, second, the embarrassment of the respiratory function resulting from the presence of the exudate in the air-cells. From the first of these we have the chill, the fever, the nervous and muscular prostration, and a host of complications depending on toxemia, some one or more of which arise sooner or later in a large number of cases. From the second we have the tenddency to asphyxia, and from the two combined the ever-present danger of failure of the right heart.

This being a very brief review of the pathology of pneumonia as it appears to me, let us see in how far it affords a basis for a rational treatment. Heretofore the treatment of pneumonia has been almost wholly symptomatic, and on the whole we must admit that it has been far from satisfactory. In hospital practice the world over from one-fourth to one-third of the cases have proved fatal. In private practice the results have been somewhat more favor-

* A schematic illustration will sometimes serve a useful purpose. If a hemorrhage should take place from a villi within the urinary bladder and the clot should become infected by germs from without, we should scarcely call this a cystitis, although the vesical mucosa might suffer somewhat from the process going on in the viscus. The case would not be materially altered if the germs were introduced as the first step, and by their irritation induced the hemorrhage, provided the process ceased with the removal of the clot.

able. But the fact still remains that pneumonia destroys more lives than any two other acute diseases combined.

Within the present decade, however, there seems to have been a dawning of a better era. With the recognition of the specific microbe came necessarily the idea of an anti-microbic treatment. Unhappily, development along this line has been hindered by the persistent hold upon the professional mind that the idea of a pneumonitis has maintained. The utmost concession has been that the specific organism excited a local inflammation, which once excited was like any other inflammation. The matter has been still further complicated by the assumption in some quarters that the infection was first general, and afterward became localized in the lung. According to this view, the pulmonary lesion was the specific eruption that accompanied pneumonic fever, as the cutaneous eruptions accompany the fevers of measles, scarlatina, and smallpox. The one idea that has found most difficult acceptance is that the beginning of pneumonia is the lodgment of the pneumococcus in the air-cell, and that all the other phenomena are subsequent to and consequent upon this lodgment, no matter in what order they become apparent, either to the patient or to the physician. Thus, the patient has pneumonia before he has fever, or a chill, or a stitch in the side, or begins to cough. He will probably have had pneumonia for many hours, or perhaps some days before the local changes attain to such a development as to make themselves apparent by the clumsy and insensitive methods of auscultation and percussion. Yet with what dogmatic assurance we assert that there is no pneumonia present if we fail to detect percussion dulness or a crepitant râle. If we are especially cautious we will say that the patient may get pneumonia later, but he certainly has not got it now. Because the flames are not bursting from every window we ignore the smouldering fire that is eating its way through the interior of the building.

Grasping fully that all the phenomena of the disease center in the colonies of bacteria growing in the air-cells, we have at least the basis for rational therapeutic effort. The problem before us is, first of all, to arrest or inhibit this growth. We shall be assisted in solving this problem by a knowledge of the peculiarities of the organism with which we have to deal. Fortunately, the pneumococcus lanceolatus has been studied by many competent observers, and its life-history and conditions of growth are thoroughly established. The facts most important for our purpose are, first, that "the life of the organism is short, not exceeding ten or twelve days at the most in artificial cultures. The second is, that of all known germs this is perhaps the most sensitive to its environment, laboratory experience showing that it can be cultivated successfully only by the most careful attention to its habits and peculiarities. The slightest deviation from the conditions these impose puts an end to its growth. Furthermore, the probability of successfully inhibiting the action of a germ through the influence of an agent diffused in the blood is greatly enhanced if the germ is located in the lung. This is due to the fact that the whole mass of the blood passes through the comparatively small pulmonary circulation every time that it traverses the vastly greater systemic circuit. Hence any substance in the blood comes into much more intimate contact with a germ in the lung than it would with a germ placed elsewhere, and the assault is proportionately concentrated and energetic."

"It is true that to be fully effective a germicide designed to act within the air-cell must be employed before the circulation in the functional capillaries is arrested. After such arrest it can reach its destination only by the very narrow channel of the nutrient blood-supply. But as the pressure of the exudate is the ultimate factor in closing the functional vessels (whatever coagulating influence the morbid process may have exerted) it is not until consolidation is complete that access through these vessels is entirely cut off."

Inasmuch as the pneumococci are growing in a medium which is derived directly from the blood, it is clear that their pabulum will partake of any substance with which the blood may be charged at the time when the exudate is separated from it. Hence, if we could anticipate the lodgment of the cocci in the air-cell by impregnating the blood sufficiently with a substance inimical to the growth of the organism, we should stand a chance of forestalling the local process and thus entirely preventing the disease. Such early action, however, is seldom practicable, and when the air-cell is once filled with exudate but little can be done thereafter to influence the culture process going on within it. This process will continue until the quantity of medium in the cell is exhausted or until the accumulation of pneumic acid in the lung tissue arrests the growth of the germ. But the local process is always at first a spreading one, and there is no reason why the invasion of new cells may not be prevented, thus limiting the disease to the area already attacked.

This being the theory of the antimicrobic treatment, let us see what progress has been made toward realizing it in practice. For years past and long before anything was known of micro-organisms certain remedies have had more or less reputation as tending to cut short pneumonia. Calomel was one

of these, and many of us remember with what confidence the late Dr. Leaming prescribed his "sedative dose" of 40 or 50 grains, and how often this dose was followed by a prompt fall of temperature going on in many cases to complete defervesence. In this he was building on the foundation of the older clinicians, who placed great faith in the value of mercury as an "antiphlogistic" in pneumonia.

Fifty years ago very few would have had the hardihood to treat a case without it. We can see now that it was not its "antiplastic," but its antigermic effect, if I may coin a word, that gave it its value. The pneumococcus is exceedingly sensitive to the mercuric salts, and enough of the calomel would be converted into bichlorid to give a decided character to the blood and to the exudate separated from the blood. Indeed, the evidence at hand would indicate that but for the danger attending the use of considerable doses, mercury in some one of its forms might be a very satisfactory agent for combatting the pneumococcus, especially at the outset of the disease.

The *New York Medical Journal* for June and July, 1879, contains a very interesting report on the "sedative" dose of calomel, made to the Therapeutical Society of New York by Dr. Putnam Jacobi, secretary of the Committee on Antipyretics. It is a summary of the results of a collective investigation covering fifty cases in which large doses (20 to 60 grains) of calomel were given. Fourteen cases were of croupous pneumonia, all of them severe. Of these patients thirteen recovered and one died. This is a remarkable showing, and it is impossible to read the report and not yield to the conviction that in some of these cases the calomel turned the scale toward recovery. In no case was there excessive purging from so large a dose. Stomatitis occurred only twice in the fifty cases, and produced no serious inconvenience.

More recently Pieragnoli[2] strongly recommended the employment of calomel in croupous pneumonia. His method consisted in the daily administration of calomel combined with opium. His results were very satisfactory. Of five patients to whom the calomel was not given, all died; of fifteen who were treated with calomel all but one recovered. Equally good was the result in children. The course of the disease was milder, the infiltration was less firm, and the wandering of the disease in the lung less marked.

Smarkovsky[3] of Moscow claims that calomel given in doses of 5 or 6 cgm. (gr. 3/4-1) every hour until a purgative effect is produced, is capable of jugulating croupous pneumonia, and causing its abortion. This does not result, he observes, from any direct influence of the calomel upon the pulmonary lesion, but from a general antiseptic action upon the toxic material circulating in the blood, thus augmenting the resistance of the organism to the morbid local process.

Granting the major proposition in the sense intended, it would be more reasonable to infer that the drug acted toward limiting the production of the poison rather than its destruction after it had reached the current of the blood. And I wish to avail myself of this opportunity to place on record my disbelief in the power of any drug taken into the circulation to neutralize or oxydize or in any way act upon the toxic product of any micro-organism, and my belief that the benefit in all such cases is from acting directly upon the organism itself to prevent or to limit the further production of toxin, the system readily taking care of that already formed.*

Quinin, though a feeble antagonist to other than malarial germs, has sufficient power to impose a considerable check upon the activity of the pneumococcus. Flint, Loomis, and many other authorities bear witness to the benefit derived from large doses of the drug, which in their hands often lessened the severity of the disease and shortened its duration, sometimes even bringing about a complete abortion. We need not be surprised at this action of quinin when we consider how thoroughly it saturates the blood, and how it pervades every portion of the system. Flint says:[4] "As long ago as 1861 I was led by the results of the analysis of a considerable number of cases in which sulphate of quinin was given to the extent of only 15 grains daily, to the conclusion that this remedy exerted a marked curative influence on the disease. I can now (1881) bear testimony to the fact that, given in larger doses, namely, 20 to 30 grains daily, this remedy, in a certain proportion of cases, renders the disease abortive, and that when this does not follow, the disease is often modified to a greater degree than by smaller doses. Now, whatever efficacy belongs to these remedies proceeds evidently not from any direct effect upon the pulmonary affection, but from a controlling influence over the pyrexia, thus sustaining the doctrine that the disease is an essential fever."

How this abortion is to be effected simply by acting on the heat center there is no attempt to explain.

Hare[5] expresses the belief that quinin with aconite or veratrum viride, employed before consolidation has taken place, has the power of so modifying

* The proof of this is a matter of daily observation. When we wash out a septic uterus with simple plain water, or when we open up and drain an abscess, we get an immediate fall of temperature, although we have done nothing whatever to the blood. Strictly speaking, there is no such thing as *general* antisepsis. The action is always local, even though brought about through the medium of the circulation.

the hyperemia in the affected area as practically to abort the local process and prevent exudation. We must believe, however, that it is not so much by "modifying the hyperemia" as by acting directly upon the micrococcus that the abortion is brought about. I am not aware that the influence of quinin upon the diplococcus has ever been tested by direct laboratory experiment.

Clemens,[6] and subsequently Baumgarten, Oertel, and others derived great benefit from inhalations of chloroform in pneumonia. Dr. J. S. Thacher, at my suggestion, made some observations last year in the laboratory of the Presbyterian Hospital which showed that the pneumococcus was very sensitive to the influence of chloroform in the culture medium, thus giving the key to the clinical results obtained almost half a century before the specific germ was discovered.

Coming down to recent years,[7] Robinson and Kerr[8] are enthusiastic advocates of creosote both by the stomach and by inhalation. The pneumococcus, as we have already seen, is extremely vulnerable, and while it may not be actually killed by any vapor that could be safely taken into the lung, there is no reason why its growth should not be inhibited to a considerable extent, and the amount and virulence of the toxin materially lessened. It is no sufficient objection to this proposition that the inhaled material could not reach the air-cells of the hepatized area, since all goes to show that the most favorable conditions for general infection are supplied by the partly-filled alveoli surrounding the consolidated focus. To these cells a gaseous agent can easily penetrate.

As to the use of creosote by the mouth, we know in what large doses it is administered with safety in the treatment of tuberculosis. That it enters into the blood and reaches the lungs we have abundant evidence in the odor it imparts to the breath. A. H. Kerr says of it: "I do not say that it is a specific in pneumonia, but I do say, and with emphasis, that it is the nearest approach to one that has yet been reached. He gives the details of a case seen within twenty-four hours after the chill. The pulse was 120. Temperature 104.2° F. Respiration 40. Dulness and fine crepitant râles over the base of the left lung. Ten minims of creosote were given every two hours, and for the first day a grain of opium every three hours. The following day (the third of the disease) the pulse remained at 120, temperature 104° F., respiration 36. Twenty-four hours later (fourth day) pulse 96, temperature 102° F., respiration 26. At the next visit (fifth day) pulse 80, temperature 99° F., respiration normal, patient convalescent.

Under the head of "Note di Terapia"[9] the *Clinica Moderna* states that it has been demonstrated that clysters of creosote, each containing from twenty-five to forty drops, are of great value in pneumonia, and cause a subsidence of all alarming phenomena of the disease.

Van Zandt[10] (1898) advocates strongly the use of creosote either singly or in combination with ammonium salicylate, and reports a number of cases in which its use was followed by prompt defervescence in advance of the usual time of crisis.

In an inaugural thesis published last year, E. Corgier[11] discusses at length the properties of the carbonate of creosote which adapt it for use in acute pulmonary affections. He shows that it can be taken in large doses, up to a dram or more, without producing gastric irritation, and that, being slowly decomposed in the small intestine, it liberates the creosote in such a way as to keep the blood constantly charged with it even when the doses are separated by intervals of six, or even twelve, hours. Owing to this slow liberation poisonous effects are never developed with medicinal doses. [The occasional smoky urine does not imply disintegration of blood corpuscles, as at one time supposed, but is the result of a harmless chemical reaction and may be disregarded.] As in the case of creosote itself the drug is largely eliminated through the lungs, and the odor of creosote is quickly developed in the breath. The action is therefore double, first, in the blood within the tissues; second, as a vapor in contact with the pulmonary mucous membrane. These facts in connection with the powerful antiseptic quality of the remedy seem to fit it especially for use in acute pulmonary troubles. In this form too, it has the advantage of being comparatively tasteless, and therefore easy of administration.

In its effect upon the system at large the carbonate, called also creosotal, is an ether, and in so far as it is taken into the system in its combined state it acts as an ether. When broken up in the intestine into carbon dioxid and creosote the latter, which is an alcohol, acts like other alcohols as a cardiac and nerve stimulant. We have, therefore, in either case the reverse of the depressing effect which is a possible result of the use of many other powerful germicides and especially the salicylates.

For some time past the carbonate of creosote has been used extensively in the clinic of Dr. Cassoute of Marseilles, and this thesis of his pupil deals with material furnished by the clinic. Among other cases, it details three of lobar, and ten of bronchopneumonia, in which the carbonate of creosote was practically the only medicament employed. In every instance the effect upon the temperature was

most marked, defervescence being promptly effected in the cases of lobar pneumonia, while in the cases of bronchopneumonia the temperature was notably lowered and the severity and duration of the attack proportionately lessened.

The argument of Dr. Corgier is certainly a very strong one, for the selection of this as the most promising of the various medicaments yet brought forward for acting directly upon the toxic conditions present in pneumonia. The writer adopts the idea that the disease is primarily bacterial, and that we should attack the bacteria as the source of the toxin. But he speaks of pulmonary localization as if the general condition had preceded the local, and emphasizes the necessity for general as well as local antisepsis. He seems to consider the lung as the chief sufferer from a general infection, instead of the source of the infection from which the whole body is suffering.

Salicylates.—Robert Liegel[12] contributes a remarkable paper in which he describes a treatment which has been successful in his hands in seventy-two consecutive cases of croupous pneumonia occurring in the miners at Leoben Seegraben. The patients ranged from sixteen years of age to seventy-four, and included many subjects of anthracosis. Eight had pulmonary emphysema; six cardiac disease. A large proportion were alcoholics. The drug relied upon was sodium salicylate in "large doses," not less than 120 grs. daily. This was given in solution. No other medicine was employed, except perhaps an expectorant containing ipecac, if the cough was tight and racking, and small doses of morphin when pain was excessive. Ice was applied to the head when the temperature was above 39.5° C. (103° F.)

Under this treatment not only did recovery take place in every case, but the duration of the attack was diminished one-half. In no case did crisis occur. The temperature declined from the end of the first day, until at the end of three or four days it reached the normal, and convalescence was established. The expectoration lost its distinctive character and became catarrhal, the physical signs did not fully develop, or if present speedily retrogressed. The microscopical examination of the sputa showed a constantly diminishing number of diplococci, until, at the end of the third or fourth day, they were found to have entirely disappeared.

In the earlier cases the medicine was suspended as soon as the temperature became normal, but this was found in a number of instances to be followed by relapse; observing this, the doses thereafter were continued for some two or three days longer, and no further relapse occurred.

Previous to the adoption of this treatment the management of the disease by the usual methods had been unsatisfactory and the mortality excessive.

Liegel does not grasp the anti-bacterial idea but considers that the salicylate exerts a specific effect, such as it exhibits in rheumatic fever. He, however, assumes that it acts on the mucous membrane, increasing its secretion and thereby throwing off the exudate, as croupous membrane is thrown off from the larynx. In no instance did it give rise to any symptoms more unpleasant than a buzzing in the ears. Indeed, the dosage was fairly moderate, less than we habitually employ in the early stages of acute rheumatism, and anything like poisonous effects could scarcely be apprehended.

Liegel believes that this treatment will save nearly all cases, and he cites some instances to show that the most unfavorable conditions may be recovered from under its use. In one of these a man sixty-seven years of age was taken with pneumonia while living in a damp cellar in which six persons were huddled together. He had been insufficiently nourished before the attack, and when first visited was found delirious and too much prostrated to be removed to the hospital. He recovered, however, in the same time as the others, notwithstanding his miserable surroundings.

This is the latest and most important illustration of the possibility of so acting upon the blood as to hinder the growth of the bacteria, and to diminish, if not prevent, the formation of toxin.

The following is from a private letter to me, from Dr. A. Ross Matheson, of Brooklyn. The substitution of the ammonium salicylate for the sodium salt has much to recommend it, but the latter has seemed to me to be better borne by the stomach:

"For several years I have used the salicylate of ammonium in pneumonia, more especially in those cases occurring during the grip season and in which there was a grip element more or less pronounced. I am now treating a case of lobar pneumonia in the third stage in which the only remedies administered have been salicylate of ammonia, codein sulphate, and strychnin sulphate. The symptoms in this case in the beginning were formidable in the extreme, but modified early as a result, I believe, of the effects of the ammonium salicylate. I administer it in ten to fifteen grain doses, and endeavor to have the patient take from one and a half to two drams in twenty-four hours.

"I find that ammonium salicylate has some advantages over the soda salt. It is stimulating, while the latter is more or less depressing, and it does not produce to the same extent the throat and ear disturbances. I am satisfied that it has decided value."

Dr. J. H. Ferguson, of Mine La Motte, Mo., informs me that he has records of one hundred and six cases of pneumonia treated by him with sodium salicylate, showing one hundred recoveries and six deaths. He was led to this method by the belief that inflammation in general was intensified by uricacidemia. He gives five grains every two hours, together with potassium citrate, to stimulate the kidneys.

In concluding the argument for a treatment addressed to the bacteria themselves, I will say a word as to the time at which such treatment is to be instituted. Emphatically at the earliest possible moment. If we had the patient constantly under our eye and began treatment the instant we even suspected that pneumonia *might* be impending, we should even then, as I believe, often find that the diplococcus had already effected a lodgment and the local process was already under way. The occurrence of the chill is a certain indication that a considerable amount of toxin has been formed in the lung and taken into the general circulation. Every hour fills up more air-cells with the exudate and shuts them off from communication with the functional circulation upon which we are to depend to carry our remedial agent to the field of its activity. In every cell so shut off the germ culture will go on until arrested by exhaustion of the medium or other natural processes which it would carry us too far to discuss.

But even if we miss the auspicious moment, so long as the disease is spreading we shall still be in time so to act upon the zone just outside of the consolidated area. And it is precisely here that the most active mischief will always be going on. It is the young, newly formed cocci that are virulent, the older ones in the centre of the focus are relatively harmless. This has been proved by laboratory cultures. And it is the half-filled cells in whose walls the functional blood is still flowing that afford the best chance for absorption of the toxin. There is, therefore, no moment while the local disease is advancing when we may not expect to lessen in some degrees the flood of toxin being poured into the general circulation

As long, therefore, as persistent temperature and pulse frequency show continued formation of toxin, so long effort to combat this formation is demanded. The earlier instituted the better, but it is never too late to begin.

In my view it is the duty of the family physician to provide his families with either creosotal or one of the salicylates, and to instruct them that with the slightest chilly sensation or the slightest stabbing pain in in the lung a dose is to be given at once and that this dose is to be repeated at stated intervals until the physician arrives. This might prevent the development of pneumonia in some cases and shorten the attack in others.

My individual experience with the line of treatment in question, though not large has been encouraging. The cases coming under my observation are for the most part in an advanced stage of the disease, and often in a well-nigh hopeless condition. Yet even in such cases I have seen, or thought I saw, marked benefit from the antigermic means employed. I have been searching for the best weapon against the pneumococcus. I have used all of those I have mentioned this evening, with the exception of large doses of quinin, which have seemed to me too slow in action and too disturbing to the stomach. At one time the salicylates were my preference, but I think that late in the disease they may be depressing to the heart, and they often cause a good deal of gastric irritation. I now prefer carbonate of creosote. In my hands it has done good service, and the testimony of many authorities, as we have seen, is strongly in its favor. So far no inconvenience seems to have resulted from its use.

As to accessory treatment, I shall say but little. It comprises, first, stimulation of the emunctories to carry off the poison as it forms; second, sustaining the vital powers and particularly the heart-cardiac stimulants, hydrotherapy; third, relieving the pulmonary circulation — vasodilators, venesection; fourth, compensation for loss of respiratory surface— inhalations of oxygen; fifth, reduction of excessive temperature—cold to surface, antipyretics (?); sixth, relief of incidental symptoms.

There is only one point under this head that I care to insist on at this time. When the chief danger to life is mechanical, *i.e.*, from obstruction to respiration, and there are cyanosis and distention of the veins, and frequent, rattling respiration, I would give arterial dilators, and I would not give digitalis. In my experience blueness and digitalis go hand in hand. If we can keep our patient's face florid we may have hope for him; but blue lips and ashen cheeks are the shadow of death. If we can retain a portion of the blood in the arteries instead of driving it all into the veins, the right heart will thank us, and we need not apologize to our sphygmograph for neglecting its warning. I infinitely prefer a big pulse, however soft and gaseous, to a tiny thread that the finger can scarcely discover. As to the pulse *under these conditions* becoming slower and fuller from the effects of digitalis, it is a phenomenon I have never witnessed. And this leads me to devote a moment to the treatment advocated by Petrescu of Bucharest which he claims saves all but two per cent. of his cases, and to which the friends of digi-

talis so confidently appeal. His statistics are good, but all his patients are young soldiers, picked men, who have passed a rigid physical examination. He has them constantly under his eye, and at the first sign of illness they are taken into the hospital and placed under treatment. But if his patients included both sexes and all ages, if he had to deal with a full proportion of alcoholics and nephritics and diabetics and cardiac incompetents, with half-starved beggars, and gouty dyspeptics, and if they were trundled from a distance to the hospital at no matter what stage of the disease, and with no matter what previous treatment, his ratio of cures would be considerably different. Moreover, the watery effusion of digitalis which he employs does not represent the drug, as it contains almost no digitalin but depends for its efficacy upon digitalein and digitonin. Indeed I would hazard the conjecture that the enormous doses of this preparation administered by Petrescu do quite as much by poisoning the pneumococcus as by acting on the heart and arteries.

The serum treatment of pneumonia from which so much has been expected, has not yet yielded any definite results. Still there is enough to encourage further effort, and it may be that in the near future an important addition to our resources will be attained, and that we shall have an antitoxin as efficacious in pneumonia as is the one we now have in diphtheria.

In the discussion of this subject I have for lack of time purposely omitted many interesting points in pathology which have not a direct bearing upon treatment. My wish has been to fix attention upon the point at which the pathology and the treatment of pneumonia come into touch one with the other. If this point can be made to broaden into the basis of a rational therapeusis my aim will have been accomplished.

18 EAST FORTY-SIXTH STREET.

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Dr. Markoe Appointed on Staff of New York Hospital. — Dr. Francis H. Markoe has been appointed visiting surgeon to the New York Hospital.

THE EXPLORATION OF THE ABDOMEN AS AN ADJUNCT TO EVERY CELIOTOMY.

BY HOWARD A. KELLY, M.D.,
OF BALTIMORE.

I HAD occasion in several instances some sixteen years ago, to make post-morten examinations and to remove through an opening in the vaginal vault in women, and through the perineum and through the rectum in men various viscera which I was desirous of inspecting.[1] I was enabled in this way to secure specimens not only from any part of the abdominal cavity, but by perforating the diaphragm, from the thorax as well, removing in one instance both heart and lungs. I recall with particular distinctness my first case, a woman with large white kidneys whose history I had followed with unusual interest, and where I had reason to feel assured I would be refused the privilege of an autopsy by the unintelligent relatives, abetted by the undertaker. I was in this instance able to remove both kidneys through the vault of the vagina without leaving any external evidence whatever of the depredation committed.

I cite these cases, not without considerable misgivings as to the propriety of my conduct in thus stealing an autopsy, in order to show how easy it is to reach all the various viscera through an incision as far as possible from the center of the abdomen, large enough to admit the forearm, as well as to urge the propriety, or rather the necessity of making a somewhat analogous investigation of all the abdominal viscera every time the abdomen is opened in the living subject.

Although I had not infrequently made such examinations from the earliest years of my work, in common I suppose with other surgeons I was led to adopt the investigation of the abdominal and pelvic organs as a routine plan to be followed in all celiotomies by the following circumstance which caused me no little chagrin. I was treating a woman for pelvic peritonitis with adhesions binding down both tubes and ovaries; I first broke up the adhesions under anesthesia, and then, finding that she continued unrelieved, in December, 1894, I opened the abdomen, brought the adherent tubes and ovaries up out of the incision, carefully freed all adhesions and returned the now fairly normal organs, and finished by suspending the retroflexed uterus.

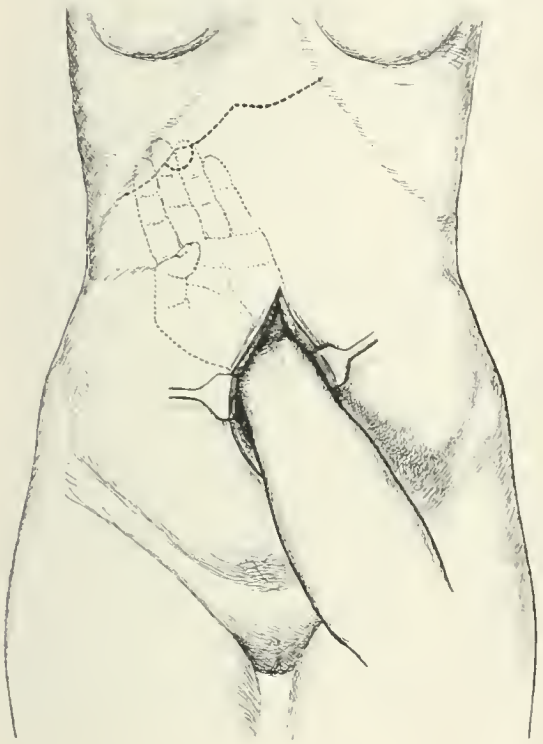
She passed entirely out of my hands and I did not hear from her again further than to realize that the success of my work was but a qualified one, until a

[1] A method of post-mortem examination of the thoracic and abdominal viscera through vagina, perineum and rectum, without incision of the abdominal parietes.—MEDICAL NEWS, June 30, 1883

number of months had elapsed, when she wrote from a distant point saying that she had undergone an operation for chronic appendicitis by which she had been entirely relieved, and that she was convinced that this had been the real cause of all her discomforts as well as of the pelvic inflammation which I had been treating.

Whether the reproach was deserved in this case I have had no means since then of deciding, but I acted upon the assumption that I was blamable for neglect and took the lesson to heart, and have ever since that date inspected the vermiform appendix in every instance in which I have made an abdominal

Fig. 1.



Method of exploring the abdominal viscera.

incision large enough to permit such an examination, and have recorded its condition in writing on a slip kept by the anesthetizer during the operation; furthermore, realizing that not only the appendix might be at fault but some other abdominal viscus as well, I have made a systematic examination of the entire peritoneal cavity in every instance in which the condition of the patient did not forbid it.

It will, I am sure, be easy for any surgeon to whom this proposition is presented for the first time, upon pausing to consider the matter to adduce shortly a number of excellent reasons why such a practice should sometimes prove serviceable; let us consider some of them.

In the first place, abdominal diseases of all kinds are commonest in middle life, the period when most of our celiotomies are performed and it becomes practically certain, reasoning simply from the law of chances, that a coincidence of two or more entirely independent diseases is sure by means of this examination to be discovered occasionally.

In the second place, there is a constant association between certain abdominal surgical affections and affections elsewhere in the form of a mutual interdependence, whether from the propagation of a disease from a central point, as in the case of cancer, sarcoma and tuberculosis, or from a mechanical action, where the effects of pressure are manifested near to or at a distance from the seat of the disease, as in the case of pelvic tumors or inflammation obstructing the vascular, the urinary or the alimentary channels.

In the third place, such an examination if negative gives both operator and patient a comfortable assurance that the convalescence will progress without interruption, as well as the satisfaction of realizing that there is no visceral affection in progress which is liable in the near future to shorten life or to impair health.

The following diseases are most likely to be found in such a routine examination: appendicitis, hernia, either inguinal, femoral, or umbilical, hydro-ureter, disease of the omentum, pyloric cancer, movable kidney, enteroptosis, cancer of the liver, perihepatitis, gall-stones.

In making an investigation, or rather in taking an inventory of the abdominal cavity in this way, certain of the organs can be inspected as well as handled, while others can only be felt. The range of vision is limited to the area adjacent to the incision and those structures which can be drawn over into the neighborhood of the incision; the field is of course extended by enlarging the incision. In a lax or scaphoid abdomen where the reserve space is large, the abdominal walls may sometimes be hooked up well away from the viscera, which can be seen by stooping down and looking in or by inserting one of my largest calibre rectal specula and using a headlight. This extension of the field of inspection is also often feasible after removing a large ovarian or a large fibroid tumor.

There are four steps in the exploration of the abdomen:

First, the simple inspection of such structures as can be seen in the neighborhood of the incision by drawing the lips of the incision widely apart.

Second, the examination of those structures which can be brought into view by inserting two fingers through a small incision and catching structures near

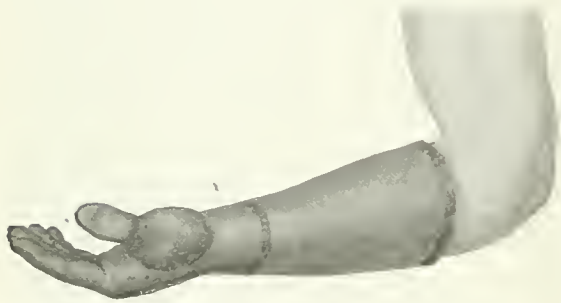
by, such as ovaries, tubes, cecum and appendix, as well as uterus.

Third, by the insertion of the hand as far as the wrist, by which the colon and the stomach and the pylorus can be grasped and palpated or pulled down, and

Fourth, by the insertion of the forearm in order to reach the liver, the gall-bladder, the kidneys and the spleen.

The technique of such an exploration is this: extreme care must be taken to maintain asepsis by thoroughly sterilizing the arm or by wearing a rubber glove with a long sleeve reaching as far as the elbow, which I have had made for this particular purpose. (See fig. 2.) If the field of the operation, that is to say the area in the immediate neighborhood of the incision, is so septic as to demand the use of drainage, then the operator would best forego the advantage of the more extended examination on account of the risk of distributing the septic material.

Fig. 2.



Rubber gauntlet.

The length of incision necessary for a complete exploration of the abdomen must vary from ten or twelve centimeters up to fifteen (6 to 9 inches) according to the size of the operator's forearm; it must be so large that he runs no risk of bruising the tissues by forcing in the arm through a tight opening.

The best posture in which to examine the patient is either lying flat on the table, or with the pelvis slightly elevated; a decided elevation often causes the appendix to gravitate up out of reach for inspection unless one uses dangerous traction on the cecum to bring it down.

The various structures are examined in an order which must vary with the location of the incision; when the abdominal opening is made low down over the middle of the pelvis, I commonly follow some such routine as this; after carefully noting the condition of each pelvic viscus, uterus, tubes, ovaries, bladder and rectum, I then look at the internal inguinal rings, locating them if necessary by the round ligaments, and test them with the index finger to see if there exists a hernia, and if so I proceed to sew it up at once from the inside of the abdomen, first passing the needle through the outer pillar of the ring and then through the inner, using one or two mattress sutures of silk; another row of sutures draws the peritoneum over the first line so as to bury them; in this way the hernia is closed from the inside, the side on which the pressure falls first and, therefore, in the position of the greatest mechanical advantage.

The umbilical ring is next examined, and if there is an opening it must be closed in like manner from the inside with one or two mattress sutures. The bladder is then examined for adhesions, which are often found on its peritoneal surface. The rectum also will often be found involved in a pelvic peritonitis, especially near the pelvic floor.

The next point of importance is the vermiform appendix, for which the pelvis ought not be elevated at all. Unless the abdominal walls are thin, the incision must be larger than that used for suspension of the uterus by my method, that is to say over 4 or 5 cm. in length. The cecum can be best caught and drawn into a small incision by grasping the bowel in the right iliac fossa by the last phalanges of the index and middle fingers, between the dorsal surface of the index and the palmar surface of the middle; in this way the appendix can be brought into view when the incision is only large enough to admit two fingers.

The cecum secured and brought out, the appendix is traced by following the anterior band of longitudinal muscular fibers, and when found it should be removed if it shows any traces of previous inflammation. In a series of 115 cases in which the condition of the appendix was noted at the operation, it was found adhering to the right tube or ovary in 10 cases, in 37 cases it was involved in adhesions, it was congested in 3 cases, and obliterated at the cecal end in 1 case. Only 64 appendices were perfectly normal.

In a series of 200 abdominal sections I have had occasion to remove the appendix 25 times.

The routine inspection of the ureters in gynecological operations is perhaps as important as that of any other abdominal organ after the appendix, and for this reason every surgeon should be thoroughly familiar with the ureteral landmarks. The best place to find the ureters is where they lie upon the common iliac arteries at the pelvic brim; on the right side the ureter may be seen, upon lifting up the inner border of the cecum, crossing the brim with the ovarian vessels. If watched for a little while a peristaltic wavelet, at once establishing its identity beyond a doubt, will be seen traveling down toward the bladder. On the left side it is necessary to

draw the sigmoid flexure in the same direction, that is to say, toward the median line, in order to affect a similar exposure. In cases of carcinoma and myoma uteri and ovarian cysts such an examination will often reveal the presence of a hydro-ureter, in suppurative pelvic affections a pyo-ureter may be found.

A case which I operated on in Paterson, New Jersey, at the request of Dr. J. C. McCoy, serves beautifully to illustrate the point I wish to make here. The patient had a fibroid uterus reaching as high as the umbilicus, and altogether about as large as a six-months' pregnancy. I removed it by my method of supravaginal amputation, cutting from left to right. I then examined the adjacent structures and found the appendix bound down by adhesions in the pelvis and removed it. Then after stating to a number of gentlemen who were present, the importance of examining the ureters also in such cases, I proceeded to investigate carefully and found on the right side an extensive pyo-ureter leading up to a pyonephrosis, whose presence there had been no clinical reason whatever to suspect.

I accounted for the pyonephrosis in the following manner: the myomatous uterus which filled the pelvis had backed up the urine by pressure at the brim causing a hydro-ureter and a hydronephrosis, then came the appendicitis adding the element of infection conveyed through the tip of the appendix which I found firmly soldered down in the pelvis upon the ureter about 4 cm. below the brim of the pelvis.

Dr. McCoy at a later date removed the right kidney, completely curing the patient. By making a routine examination of and discovering the complication at the first operation, I saved myself the possible, and I think proper, imputation of having ligated the ureter, and so of having caused the pyelonephrosis, I furthermore made an accurate diagnosis as to the presence and location of the complication and determined that the opposite side was unaffected, so making the subsequent operation a safe instead of a hazardous undertaking.

The position of the transverse colon and the stomach are to be noted on account of the frequency of enteroptosis.

Up to this point it has only been necessary to introduce the hand as far as the wrist, it now becomes necessary to introduce the forearm, and for this purpose the edges of the incision are protected with gauze, and the omentum held down while the hand is pushed in, in front of it, with fingers extended and thumb pressed into the palm so as to take up less space. Whichever hand the operator uses he should stand on the corresponding side of the patient and push the hand first back into one flank and then into the other and thus palpate both the kidneys, noting their presence, size, form, and mobility by sliding them up and down. The renal pelvis may be felt and inverted towards the calices to detect a stone. After the kidneys, the liver is felt, its apparent size, the regularity of its surface, its margin, any adhesions which when present indicate perihepatitis. Most of all, the superior viscera the gall-bladder is next located by feeling the fissure between the right and left lobes of the liver and then palpating across the lobus quadratus to the depression on its right side where the gall-bladder is found, as a rule, well distended.

By taking it between the thumb and two fingers and squeezing it with moderate force, a healthy gall-bladder collapses slowly as the bile is forced out into the hepatic and common ducts. Not infrequently on recovering from the anesthetic such a patient vomits at once a quantity of golden-yellow bile. When the gall-bladder is collapsed one can then readily feel a stone if it be present, by pressing its walls together.

I next put my index-finger in the foramen of Winslow, easily found below the gall-bladder, and palpate the hepaticoduodenal ligament and trace the common duct down for several centimeters, feeling for a stone there. The spleen may then be felt, taking the stomach as a guide.

Finally the pancreas is found by carrying the hand in under the omentum and palpating through the transverse mesocolon.

The aorta may be palpated thoughout the entire length of its abdominal portion by pressing the fingers back against the vertebral column as the hand is withdrawn.

In a case of Dr. G. P. Yost's, in which a patient convalescent from typhoid fever was suddenly seized with severe pains, marked elevation of temperature, and had a decided distention of the abdomen, there was reason to suspect an attack of acute appendicitis or perforation of the intestine. In this instance I made an incision just inside the anterior superior spine of the ilium, and finding the bowel and appendix normal but the peritoneum everywhere in a state of subacute inflammation, and the abdominal cavity full of a dark thickish fluid, I explored the rest of the abdomen through the incision and was rewarded by finding a gall-stone in the bladder. A close examination of the fluid showed that it was probably bile, and the diagnosis of ruptured gall-bladder following typhoid fever was therefore made and the abdomen opened above, the stone removed and the gall bladder drained and the patient recovered.

In another instance in which the patient located her pains under the liver and there was every rea-

son to suspect the presence of gall-stones, upon finding none I palpated all of the abdominal viscera through the incision made in the linea semilunaris just below the ribs and found far down on the pelvic floor a large hematoma of the left ovary which was at once removed by a suprapubic incision.

I shall not pause to cite cases in which isolated carcinomatous nodules have been found upon carefully searching through the omentum, or enlarged mesenteric glands in peritoneal tuberculosis; or in other cases in which a carcinomatous infiltration has been discovered in the pylorus or nodules in the liver, in each instance materially affecting the prognosis as to complete recovery.

In cases liable to metastasis, such as those just cited, it is my practice to reverse the order of the investigation wherever possible, making the exploration of the abdominal viscera first and then doing the operation. If I find a metastasis which is out of the reach of surgery, I would not then feel justified in taking the same risks in removing say an advanced carcinoma in the pelvis.

In conclusion let me recapitulate and restate the points I desire to emphasize presenting them from a slightly different standpoint.

The important lesson I wish to inculcate is that, provided an incision has been made in the abdominal parieties large enough to admit the entire hand and therefore the forearm, it is always an advantage to the patient to be able to assure him that as far as touch could ascertain there is no disease of any other abdominal organ.

Under some circumstances where there is reason to suspect disease of one of the other viscera not in the proximity of the field of operation, I would make a larger incision than necessary for the performance of the operation for the very purpose of making such an exploration.

There are in general three classes of cases to which this extended examination may be applied:

Firstly, those in which there has been no reason to anticipate any disease of any other organ and the examination is made simply as a routine procedure, whenever it adds nothing to the gravity of the situation. In such cases we are most liable to find unsuspected hydro-ureter, appendicitis, movable kidney, gall-stones, and occasionally pyloric tumor.

Secondly, those cases in which on opening the abdomen, contrary to expectation no disease is found near at hand. The operator may then find it of great advantage to enlarge the incision, introduce the hand and the forearm and explore the entire abdomen. I have cited a case of this sort in which I made an incision over the appendix and finding no appendicitis, enlarged the opening and found a gall-stone within a ruptured gall-bladder; also, another case in which gall-stones were believed to be present, but in finding the diagnosis at fault I introduced my arm through the enlarged incision and found a large hematoma of the ovary.

Thirdly, the group of cases in which there is a definite percentage of chances that the disease discovered at the time of operation is complicated by the affection of some other organ neighboring or remote. In cancer of the ovary I examine all the organs and in no small percentage of cases have the disappointment of finding metastases in the omentum pylorus, or liver. In pelvic inflammatory disease the appendix will be frequently found involved, and in the case of pelvic tumors as well as inflammation the ureters are prone to suffer from compression.

NEURASTHENIA; ITS SYMPTOMS AND TREATMENT.

By LANDON CARTER GRAY, M.D.,
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NEURASTHENIA is best described by its English synonym, nervous prostration. Just as many functions as there are of the nervous system, just so many functions may you have depressed. The attempt has been made to differentiate a spinal and a cerebral form, but this is almost impossible, although there may be a predominance of either cerebral or spinal symptoms. The various functions of the mind are performed imperfectly, and there is a lessened capacity for mental work in all its myriad forms, whilst the lower and less conscious functions of the spinal cord also suffer. The symptoms, however, are rather those of impairment of function than of perversion. For instance, thought is correct, but cannot be sustained as long as in health; attention can be given, but not equally well; the memory does not suffer; the mood is but slightly altered, except by occasionally brooding on the illness there being no hallucinations, delusions, or illusions; this slight alteration of the mood differing radically from the profound melancholy of melancholia, with its delusions and suicidal impulses, or the feverish excitement of mania, or the fixed delusions of persecution and self-exaltation of paranoia, or the glittering perversions of the senses in hallucinatory insanity, or the stupid delusions of grandeur of general paresis. A neurasthenic may be nervous, or, if one chooses to call it so, hysterical, but only as a result of the neurasthenia. The worn or haggard countenance and the inability to support fatigue are seen by the competent eye to be due to nervous weakness and not to *nervousness*, although the nervous weakness may in its turn produce nervousness—a fine yet very important distinction.

Neurasthenia may be caused by over-work, mental or physical, or by great emotions; by such diseases as typhoid or other fevers, influenza, indigestion, nephritis, diabetes, syphilis, tuberculosis, rheumatism, gout, anemia, lead, hysteria, palmus, or chorea; by intestinal, cardiac, nasopharyngeal, genital, or pulmonary lesions; by such vicious habits as masturbation, or the use of alcohol, cocain, morphin, absinthe, tobacco, tea, and coffee; and occasionally even by errors of refraction. At first sight it would seem as if this were a very formidable list of causes to remember in examining a case; but practically it is very easy. It should be the rule to make a urinary examination, and thereby determine the presence or absence of albumin or sugar. It must be distinctly borne in mind that small quantities of albumin or sugar, or both, or a few hyalin casts, are not evidence of renal disease but may be simply indicative of neurasthenic conditions; so that a nephritis must be sought for by means of a suspicious persistent specific gravity and continuous hyalin, granular, epithelial, or fatty casts, or by the evidence of arterial or cardiac alteration in conjunction with these. Contrary to the general belief, uric acid may be disregarded in its relation to neurasthenia. The older theory of Murchison has been discarded, and instead of regarding uric acid as a product of suboxidation, it is now known to have its origin in the nuclein of cells, not of those composing the fixed tissues of the body, except to a very slight degree, but of the food-cells and the motile body-cells, and whether it is excessive in amount is a matter of very delicate chemical examination. This matter is of very little importance clinically for the theories of Haig are accepted by few chemists. Nevertheless, there is a condition answering to what we call lithemia, more largely to be diagnosed by the symptoms than by the chemistry, however obscure the pathology and treatment may be. Having examined the urine, the heart should be investigated, and the history will decide whether it is necessary to examine any other viscus, or whether the patient has suffered from any other of the possible causes. A sharp distinction, however, must always be made between cause and effect, and it must be remembered that while a cause may be removed, the effect may yet continue. Simple as this proposition seems, it is very seldom that the physician obtains an adequate mental concept of it. To illustrate: suppose I light a match and set fire to a piece of paper. The lighted match is the cause and the burning paper is the effect. Now, I blow out the match and remove the cause, and yet the effect, the burning paper, continues and has to be itself treated. In this way these different causes which have been enumerated may set up neurasthenia, and yet when they are removed, the neurasthenia, the effect, will persist and will have to be treated—indeed, in many cases the cause and the effect will have to be treated together.

Neurasthenia must be differentiated from melancholia, hysteria, general paresis, bromism, locomotor ataxia in its early stage, and hypochondria.

Melancholia is characterized by obstinate insomnia, by some curious sensations, as a pressure, a creeping ache up or down or actual pain in the back of the head and neck, sometimes running far down the spine, and sometimes as far up as the vertex of the skull; by a characteristically melancholic *facies*, nervous and melancholy agitation, or absolute silence, with or without cataleptic symptoms. None of these symptom-groups are present in neurasthenia.

The hysteric may have a hemianesthesia, *i. e.*, an impaired sensation of pain, touch, hearing, smell, or taste on one side of the body, or a paralysis involving only one limb (monoplegia), or hysterical convulsions—symptoms never observed in neurasthenia. In cases of hysteria of a less marked type there is no real physical depression, but immediate response to some suggestion or some placebo in the way of treatment. In both hysteria and neurasthenia there may be a tremor which, in the hysteric may be overcome by suggestion, but which is much slower to improve in the neurasthenic.

In general paresis there is a marked stupidity, either occasionally or continuously, a tremor of the tongue and facial muscles, lost or unequal knee-jerks, unequal pupils, and occasional days when the patient is flushed, has a staggering gait, and is more stupid, and has stupid delusions, generally of some exalted type. No case of neurasthenia ever has these symptoms.

Bromism is usually detected by the stupidity, peculiar fetid breath and the widely dilated pupils.

The early stage of locomotor ataxia will have lost knee-jerks, lightning-like or stabbing pains, seldom repeated in the the same place, and usually severe in character; and with these is often associated some difficulty in micturition or there may be distinct incoordination.

The hypochondriac is manifestly an exaggerator and his symptoms are palpably unreal.

The prognosis of neurasthenia is usually excellent provided the cause is removable. For this reason the favorable forms are those which are caused by over-work, mental or physical, by great emotions, or by influenza, the exhaustive fevers, indigestion, anemia, and hysteria. The prognosis of the nephritic, intestinal, cardiac, nasopharyngeal and pulmonary cases will depend entirely upon the degree and fixity of the lesions. Those proceeding from

syphilis usually respond very well to treatment, and the rheumatic and gouty forms are generally of good outlook. The choreic variety is extremely treatable, whilst that from palmus is of variable prognosis, some cases reponding readily, and others not. The forms resulting from vicious habits are perfectly treatable if patients can be controlled in their vices.

The treatment consists of: (1) removal or amelioration of the cause; (2) rest; (3) suitable physical and mental tonics, and (4) electricity. Simple as this enumeration is, however, the daily application of the principles from person to person is difficult, and it is made doubly so because a prolonged nervous depression diminishes the good sense and increases the bad judgment and lack of self-control.

The cause should, of course, be removed or ameliorated, if this can be done without aggravation of the neurasthenia. It is often a matter of extremely nice judgment to determine how much a patient can endure in the removal of the cause; for example, if the neurasthenia be profound, a dangerous operation should be deferred until the strength is greater. Rest should be both mental and physical, and its degree must be proportioned to the needs of the individual, so that little is given in a very mild case, whilst a severe one has absolute repose in bed. The recognition by Dr. Weir Mitchell of rest as the key-note of treatment in these cases was a stroke of genius, but the rough and ready application of it, since the popularization of the idea with the profession and laity, has often been appalling. It is seldom necessary to put patients to bed for three to six weeks, as was at first proposed. As a rule, it will suffice to keep them there ten or twelve hours out of the twenty-four, and to have them avoid fatigue when they are up.

The tonics to be used will vary somewhat. If there is anemia, iron should be employed, but if the neurasthenia is severe and the anemia profound, iron alone will not begin to do the work. In such a case, it will be found that dialysed iron ℥ i to ℥ ss three times a day, after meals, in a full tumbler of water, will be the best form, or, if the stomach is in any way susceptible, a peptomanganate of iron, a dessertspoonful three times a day, after meals, in a wineglass of milk. But with these should be combined tonic doses of sulphate of quinin, 2 to 3 grains, three or four times in the twenty-four hours, provided the patient has no idiosyncrasy about the drug. In some cases it will even be well to combine sulphate of strychnin with the iron and quinin, and in such circumstances the following prescription may be employed:

℞ Strych. sulph. . . . . gr. $\frac{1}{30}$
Ferri sulph. . . . . gr. ii.
Quin. sulph. . . . . gr. ii.
Ft. in pil. (argent) seu capsul. No. I. Mitte XV.

M. S. Three times daily one hour and a half after meals.

With these tonics, in severe cases, must be given a large amount of beef, and, inasmuch as anemics are, with a curious contrariety of nature, often extremely averse to taking it in the solid form, beef-tea should be employed.[1] No profound case of anemic neurasthenia will be relieved entirely without the iron, the quinin, possibly the strychnin and the overfeeding with nitrogenized matter, besides which these anemics need an unusual amount of fresh air, probably because of the deficiency in hemoglobin. A moderate degree of anemia, however, will not require this proportion of nitrogenized food, nor the large amount of iron, and it may even be hurt by the quinin, and in such cases it will be found well to employ ferratin and strychnin, in the following prescription:—

℞ Ferratin . . . . . gr. iii.
Strych. sulph. . . . . gr. $\frac{1}{30}$
Ft. in capsul. No. I. Mitte XV.
S. One three times a day just after meals.

If the patient is not anemic, the tonics that should be used will depend largely on the degree of the neurasthenia and the idiosyncrasy of the patient. If it is a mild case, an elixir of calisaya may be employed, a dessertspoonful before or after meals as may seem best. Some, however, can not tolerate this, and then it will be found well to give arsenic, either 3 drops of Fowler's solution, three times a day just after meals, in a full wineglass of water, or a tablet triturate of arsenious acid, $\frac{1}{100}$ of a grain, three times a day just after meals. Usually, however, the best tonic in the non-anemic cases is the sulphate of strychnin, in beginning doses of $\frac{1}{50}$ of a grain, three times a day, and increasing to $\frac{1}{30}$ of a grain. But where the patients have been put to bed or made to rest a great deal it is better to reserve this until they are beginning to get about more, although, in the case of business men who

[1] The best preparation of this is one made according to an old formula that extracts the albumen from the meat fiber, instead of, as in the usual method, leaving it behind in the stock that is thrown away, and giving the patient only the salts of the blood. Chop up fine one pound of good beef, preferably the tenderloin, put it into a bottle with one pint of water, and add 5 drops of the stronger muriatic acid, taking care to use a dropper so as not to burn the fingers. Then cork the bottle tightly, and put it upon ice for 12 hours. Then lay it, still tightly stoppered, sideways in a pan of water, so that the latter shall cover it. Put it on the back of the range for two hours, and keep the water at a temperature of about 112° F. Any apothecary's shop will supply a cheap thermometer which need be only approximately correct. Then strain the beef-tea through a piece of cheese-cloth, and the result will be a thick, curdly mass, rich in albumen, about three cupfuls in quantity. Before being given to the patient, it should be seasoned and cooked just as any soup is, and a cupful should be given three times a day, at or between meals.

are simply made to expend less energy in their affairs, the drug should be employed from the first.

In cases with a gouty history, the use of colchicum is necessary, and often will be surprisingly beneficial, either in the ordinary doses continued for several days, or, in slighter cases, 20 drops of the tincture of the root at bedtime.

The treatment of the lithemic cases has been a grave puzzle from the fact that the pathology is so imperfectly understood. When there can be no doubt, however, that the seeming lithemic trouble does not arise from indigestion or constipation, the lithiated waters should, as a rule, be employed in abundance, or Vichy, or Giesshuebler, giving from four to six glasses of each in the twenty-four hours. Some have found the glycerophosphate of lime, recently advocated in France, of great use in some of these cases given in doses of from 5 to 10 grains, three times a day. If any of the various forms of indigestion are associated they can usually be handled by the simple general plan of treatment of the neurasthenia, modified only to this degree, that the patient shall at the outset be put to bed absolutely for a month or six weeks, and that Mitchell's plan of beginning the dietetics with milk shall be adopted, viz., for the first twenty-four hours ℥ ii of milk every two hours, to be increased the second day to ℥ iv, and so on until two quarts are taken in the twenty-four hours, the following day a light breakfast should be added, the second day a light noon-day meal, the third, a light supper, so that at the end of two weeks the patient takes two quarts of milk and three full hearty meals in the twenty-four hours. With the simpler cases it will suffice to give the essence of pepsine, one teaspoonful immediately after meals, and a teaspoonful of the diastasic essence of pancreas one hour after; later it may be necessary to add a bitter tonic.

Of course the treatment just outlined is adapted to the functional indigestions only, and great care must be taken to exclude any organic trouble. In neurasthenia there is no true insomnia requiring hypnotics, and when there is any symptom of this kind not to be overcome by the general treatment, the case is probably one of melancholia, as a careful analysis will show.

Mental diversion is highly important, so far as it is otherwise consistent with the proper treatment of the ease, but no more cruel mistake has ever been made in medicine than that of driving exhausted neurasthenics into amusements which they are not only too wretched to enjoy, but which actually aggravate their symptoms, for it should always be fully realized that fatigue must be avoided as if it were a poison. In this connection, it will not be amiss to bear in mind that the organism must be accustomed to do only what it actually can do, and not what the patient thinks, judging from a former condition of health, that he should do.

Electricity is of great value as a therapeutic measure, and the lack of success with it has often been due to lack of precision in the *technique*. Good portable batteries, galvanic and faradic, can now be purchased at very little expense. The former should always have a competent meter and a regulator, or rheostat. The electrodes, or handles, should always be of a good malleable copper, so that they can be bent, having long, strong handles and being covered with absorbent cotton whose edges should be stitched together, back and forth, on the upper side. The skin and electrodes should always be wet with warm water before the electricity is applied, not with salt and water, as this corrodes the metal and roughens the skin. To give a galvanic current through the brain, one electrode, measuring 5 x 2½ in., should be put on the forehead, another on the nape of the neck, measuring 7 x 2½ in., and held gently but firmly in place; then the current should be slowly turned on by the regulator until two milliamperes are measured off on the meter, so gently that no flash of light will be perceived by the patient. The sitting should continue at first two minutes, and, later on, five, and then the current should be as gently withdrawn. For the spinal cord the electrode should be placed at the nape of the neck, as first described, and the other, measuring 6 x 4⅛ in., across the lower dorsal spine, skin and electrode being wet with warm water as before, and the current, first of five and then of ten milliamperes, should be turned on gently, continued for five or ten minutes, and then as gently withdrawn.

There is no tonic that will be as effective as this electrical treatment, properly and carefully given from day to day. In addition to this, general faradization of the muscles of the body is of great use, but it is not necessary, and should be employed only with patients who are careless of expense and time.

Massage is often a great aid, but not always. There are some people whom it makes worse and in the very severe cases it seems to retard recovery. There is a small minority, however, who are always helped by it. It should never be given for more than fifteen minutes at first, or at night until it has been ascertained that it does not produce insomnia, and frequently it will prove best to defer it until the patient is taken out of bed and craves exercise.

THE BACTERIOLOGY OF TYPHOID FEVER.

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In bringing this subject before the Association I will try to confine my remarks to those points which are of practical importance to the physician. In all characteristic cases of typhoid fever the bacillus, known as the typhoid bacillus, is constantly present in enormous numbers in the tissues of the ulcerated Peyer's patches and in the adjacent mesenteric lymph-nodes. The bacilli are also, after the second week of the disease, usually present, in large numbers in the spleen and in small or moderate numbers in the blood. In pneumonia, periostitis, and abscess formation complicating typhoid fever the typhoid bacillus is frequently found in the diseased areas. The above statements refer chiefly to the characteristic cases of typhoid fever. Research has shown that it is perfectly possible to have infection with the typhoid bacillus without its localization in the intestines, and especially within the Peyer's patches. Even fatal forms occur where there are no noticeable intestinal lesions whatever. In some of these the disease is of the nature of septicemia, in others there is a localization of the process in the pelvis of a kidney, in the gall-bladder, in the periosteum of some bone or in some other tissue of the body. It is important to recognize the occurrence of these irregular cases both from a hygienic and a diagnostic standpoint. Otherwise, for instance, we would overlook cases of typhoid cystitis and allow infection of hands to occur, and we would also have a false opinion of the value of the serum (Widal) test, since we would obtain in some cases the reaction where typhoid infection was present but typical symptoms absent.

The Elimination of the Typhoid Bacillus from the Body.—The typhoid bacillus is fairly constantly present in the feces of typhoid patients. This is not because it grows in the intestinal contents, but because of its being thrown into the intestines from the ulcerated mucous membranes. It remains alive until the intestinal contents are voided. In the feces of some individuals the typhoid bacillus dies in the course of a few hours, while in those of others it remains alive for days and even weeks. In some, indeed, the bacillus actually increases in numbers. These facts explain the great variability in the numbers of typhoid bacilli found in the feces of typhoid-fever patients, and are of importance in connection with the dissemination of the disease and the bacteriological examinations of feces for diagnostic purposes. As to the value of the examinations for purposes of diagnosis the following figures and remarks have been given me by Dr. Hiss from his examination of samples sent into the laboratories of the Department of Health of New York City. Three hundred and twenty-six different cases were investigated by him in the regular diagnostic work of the Department. These 326 cases represent about 400 specimens of feces examined.

Many of these cases were positively not typhoid fever. In others the final clinical diagnosis was doubtful; in others still no diagnosis (final) was ever sent to us.

Cases here recorded as typhoid fever are those represented by a positive clinical diagnosis at the end of the disease, a positive Widal reaction, or the isolation of the specific organisms.

These cases number 121. Of these, typhoid organisms were found in the feces from 42, and were not found in 79. Of the 42 positive cases, a serum reaction was obtained in 27; was absent in the specimens examined in 3; was not tested in 12. Of the 79 negative cases, 73 gave the serum reaction, 2 failed to give it, and 4 cases were not tested. Among these cases were 10 convalescent patients, in which we would expect no organisms, and 7 in which, strange to relate, the stools had been sterilized before being sent to the laboratory.

At least one-half of the remaining cases are represented by specimens sent early in the disease. Many of the serum reactions recorded were only determined late in the disease after several examinations, while in the large majority of cases only one stool was examined, and that one, as already stated, early. Subtracting the 7 cases in which sterilized stools were received, and the 10 convalescent cases, we have 121 minus 17 or 104 cases. Of these 42 were positive (40 per cent). and 62 negative.

It must also be remembered that many of the specimens were in what seemed to us very bad condition, often having been delayed in transit several days. From the above results we are justified, I believe, in concluding that, from a diagnostic point of view, the Widal reaction will fix the diagnosis as soon as the culture examination. On account of the trouble in obtaining, sending, and examining bacteriologically specimens of feces, it is better to be satisfied with the serum-test unless, it proving negative, the case is of sufficient importance to have a search made for the typhoid bacillus. The specimen, not sterilized, should then be collected in a clean bottle, kept cool and sent quickly to the laboratory.

Typhoid Bacilli in Gall-bladder. — Suppurative cholecystitis has long been recognized as a complication of typhoid fever. It has become now of added interest as a possible source of causing ty-

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phoid infection through the elimination of typhoid bacilli by the feces.

Flexner found in fifty per cent. of fatal cases of typhoid fever pure cultures of typhoid bacilli in the gall-bladder. Cultures have now been made during operations for stone from the gall-bladder of a number of cases months and years after a typhoid infection, and some extraordinary results have been met with. Thus, in cases at the Johns Hopkins Hospital, Miller obtained a culture of typhoid bacillus from a case seven years after recovery from typhoid fever; Cushing from a case where no typhoid had ever been known, and one in which an obscure history of typhoid fever twenty years before was given.

It is probable that in many of these cases the typhoid bacillus does not pass out of the body in the feces, but, on the other hand, in some cases we must believe that it does. Here, as in the case of chronic cystitis following typhoid fever, we allow persons to go about scattering infection which at any time may find conditions suitable for causing an epidemic of typhoid fever.

Typhoid Bacilli in the Urine.—Of even more importance than the consideration of the presence of the bacilli in feces, because less generally recognized, is that of their frequent occurrence in great numbers in the urine. The results of the examinations of the urine by others as well as by ourselves indicate that the typhoid bacilli are not apt to be found in the urine until the beginning of the third week of the fever, or often not until much later. From this time to the period of convalescence they appear in about twenty per cent. of the cases, and usually in pure culture and in enormous numbers. Of 9 positive hospital cases out of 38 examined by Richardson in his first series, 2 died and 7 were discharged. At the time of their discharge their urine was loaded with typhoid bacilli. We have noted many similar cases. In many convalescents the bacilli persist in the urine for weeks. Undoubtedly in some cases they persist for months and years, for Gwyn found them at Johns Hopkins in a case of chronic cystitis following an attack of typhoid which occurred four years before. Cases of cystitis following typhoid should always be suspected to be due to the typhoid bacillus, and the urine should be always disinfected. When we think of the chances such patients have to spread infection as they pass from place to place, voiding urine full of typhoid bacilli, we begin to realize how epidemics can start without apparent cause. The more we investigate the persistence of bacteria in convalescent cases of disease the more difficult the prevention of their dissemination is seen to be. The disinfection of the urine should always be looked after in typhoid fever, and convalescents should not be allowed to go to places where contamination of the water-supply is possible without at least warning them of the necessity of great care in disinfecting their urine for some weeks. Richardson made the interesting discovery that after washing out the bladder a few times with a weak solution of bichlorid of mercury, 1 to 50,000, the typhoid bacilli no longer appeared in the urine. This treatment carried out by others has frequently succeeded, but also at times has failed. Urotropin internally, 10 grains three times a day, has also given good results in some cases, but even when persisted in this may fail. The bacilli may apparently disappear for a day or two only to reappear later.

How Does Infection with the Typhoid Bacillus Occur?—Not only do the very great majority of cases examined bacteriologically and pathologically, go to show but the epidemiological history of the disease also proves that the chief mode of invasion of the typhoid bacillus is by way of the mouth and stomach. We have already considered the development of the bacillus in the body and the paths by which it is eliminated.

It is also of considerable practical importance to know the duration of life of the typhoid bacillus outside of the body. In feces it lives for a very variable time; sometimes it remains alive but a few hours, usually a few days, often for a number of weeks, and exceptionally for several months. As a rule, the bacilli can be detected in water no longer than fourteen days after introduction. Foote says that they can be found in living oysters for at least a month. The life of the typhoid bacillus varies according to the soil in which it is placed, to the abundance and varieties of the bacteria associated with it, and according to the presence or absence of such injurious influences as high temperature, light, desiccation, etc. All our information indicates that the typoid bacilli increase largely in the human body, and simply remain alive for a shorter or longer time in the feces or the urine or substances contaminated by them. Exceptionally, as when milk is infected, actual increase of the bacilli outside of the body may occur. The persistence for years in chronic cystitis and cholecystitis following typhoid fever reveals two hidden sources of infection.

The bacilli may reach the mouth by means of fingers infected with urine, or feces, or articles of various kinds, or by the ingestion of infected food, milk, water, etc., or by more obscure ways, such as the contamination of food by flies and other insects, or by the inhalation through the mouth of dust containing typhoid bacilli. Of the greatest importance, however, is the production of infection by contami-

nated drinking water or milk, one or the other of these being the explanation for the majority of epidemics of typhoid fever. In many cases indirect proof of this mode of infection has been found in the known contamination of the water with typhoid feces or urine, and in some few cases it has been confirmed by direct proof in finding the bacilli. Examples of infection from water and milk have come frequently under our direct observation. For instance, a large force of workmen obtained their drinking-water from a well very near to their work; typhoid fever broke out and continued to spread until the well was filled up. Investigation showed that some of the sick, before their discovery, repeatedly infected the soil surrounding the well with their urine and feces. Another instance of milk infection secondary to water infection was that of a milk dealer whose son came home suffering from typhoid fever. The intestinal movements were thrown into a small stream which ran into a pond in which the milk-cans were washed. A very alarming epidemic of typhoid developed, which was confined to the houses and asylums supplied with this milk. In our late war not only water infection, but food infection, was noticeable, as in the case of a regiment where certain companies were badly infected while others nearly escaped. Each company had its separate kitchen and food-supply, and much of the infection could be traced to the food.

Of more unusual origin are the too following examples of ice and shellfish contamination:

In the first epidemic the ice supply seemed to be undoubtedly the cause, as typhoid fever practically only occurred in those houses where the ice was supplied. Those using the same water and milk, but not the ice, as the people infected, were not attacked. It was found that in the winter a case of typhoid fever occurred near the pond and the stools were thrown on the ice. The epidemic occurred in August and the feces were thrown on the ice the previous January.

The epidemic at Exeter of typhoid fever certainly indicates that the eating of shell-fish is a possible cause of typhoid fever. Of eighty-five cases of typhoid fever reported in Exeter in the month of August, fifty-eight of the persons had eaten raw cockles at school picnics on July 11th and 20th at Exmouth. The cockles were taken from a mud bank over which a sewer discharged and this sewer had on its line several cases of enteric fever. Colon bacilli were found in the cockles but no typhoid. This examination was necessarily some weeks after the time that the supposed infection occurred. This and similar epidemics, although they have not been absolutely proved to have been caused by the shell-fish, teach us the need of supervision if they are to be eaten raw.

Insects as Carriers of Infection.—These are reported by Oelli to become infected with typhoid and excrete the bacilli in their feces. They certainly can transport bacilli on their feet, as we have proved by having flies alight on infected feces and then walk over culture media.

Immunization.—The injection of 5 c.c. of the serum of a well immunized horse will give at least a fair immunity for several weeks. No bad symptoms follow the injection except an occasional rash. Another means has also been employed similar to Pfeiffer's or Haffkine's preventive injections for cholera and the plague. Small amounts, grm. .002 of an agar culture of typhoid bacilli are sterilized by heat at 55° C., or by one-half per cent. carbolic acid or other suitable disinfectant and injected subcutaneously. A rise of temperature occurs in about five hours which rarely exceeds 101° F., and rarely lasts over twenty-four to thirty-six hours. With the fever may be slight chilly sensations, some nausea and dizziness. The local reaction in some cases is quite marked and local tenderness and swelling may persist for from three to five days. According to tests by Pfeiffer, Kolle, and others the protective substances in persons thus injected are as abundant and as lasting as after an attack of typhoid fever. These injections have been used in a considerable number of troops, especially in India, and appear to give quite marked protection for some months. Wright states that of 200 attendants at Maidstone Hospital 95 were inoculated. None of these contracted typhoid in the epidemic, while of the remaining 105 not inoculated 19 contracted the disease. At Khartoum, of 8 subalterns 6 were inoculated. Two decided to take their chances of contracting typhoid fever rather than try the inoculations. Both sickened and one died, not one of the six immunized was attacked. This of course was an extreme instance. Wright has inoculated over 3,000 troops with no accidents.

It would seem that for persons who expect to run great danger of infection these preventive inoculations are entirely practical and should be insisted on in armies. They are now being used in some of the troops sent from England to Africa, so that we shall soon accumulate positive information on the subject. The serum acts immediately but the immunity following lasts but a short time. The injections of the culture produce immunity only after five days, but it persists much longer. As only dead cultures are used no infection is possible.

Widal- or Serum-Reaction.—It is important that the culture employed for serum tests should be one to which we are accustomed. A culture of the typhoid

bacillus in slightly alkaline bouillon grown for not over twenty hours, in which the bacilli are isolated and actively motile, has been found to give the most satisfactory results. Stock cultures of typhoid bacilli can be developed on nutrient agar and the tubes sealed and kept in the ice-box. These remain good for months and even years. From time to time one of these is taken out and used to start a fresh series of bouillon cultures. The serum-test, is in a sense quantitative and not qualitative. By this is not meant that the agglutinating and immobilizing substances produced in the blood of a patient suffering from typhoid infection are the same as those present at times in normal blood or those produced in the blood of persons sick from other infection, but merely that the effect on the bacilli, as seen under the microscope, is identical; the difference being that in typhoid fever, as a rule, substances which cause this reaction are usually far in excess of the amount which ever appears in non-typhoid blood, so that the reaction occurs after the addition to the culture of far smaller quantities of serum than in other diseases.

The results obtained in the Health Department Laboratories, as well as elsewhere, have shown that in a certain proportion of cases, not typhoid fever, there occurs a delayed moderate reaction in a 1 to 10 or 1 to 20 dilution of serum or blood (the proportions originally proposed by Widal), but that probably never, excepting in typhoid fever, or at least typhoid infection, does a complete reaction occur in these dilutions within ten minutes. It is well to note that "typhoid fever" and "typhoid infection" are not synonymous. There may be even death from typhoid infection without intestinal lesions or the usual symptoms. When dried blood is used the slight tendency of non-typhoid blood in 1 to 10 dilution to produce agglutination is increased by the presence of the fibrinous clumps, and perhaps by other substances derived from the disintegrated blood-cells. We may sum up by saying that from many hundreds of cases examined by Fraenkel, Stern, Foster, Scholtz, ourselves and others, it has been found that in dilutions of 1 to 20 or more, a decided, quick reaction is never produced in any febrile disease other than typhoid, while in typhoid fever such a distinct reaction often occurs with dilutions of 1 to 50.

The mode of procedure, therefore, as now employed is as follows: The test is first made with the typhoid bacillus in a 10 per cent. solution of serum or blood. In the case of serum, one part is added to nine of the bouillon culture. With dried blood, a solution of the blood is first made, and the final dilution guessed from the color of the mixed culture and blood solution.[1] If there is no reaction, that is to say, if within five minutes no marked change is noted in the motility of the bacilli, and no considerable clumping occurs, nothing more is needed; the result is negative so far as this specimen is concerned. If complete clumping and immobilization of the bacilli occur almost immediately this is denominated "a marked immediate typhoid reaction," and no further test is necessary, though it is often advisable to confirm the reaction with higher dilutions up to 1 to 50. If, however, on examination of the mixture in a hanging drop there is no marked immediate reaction, but the bacilli only show an inhibition in their motility and a tendency to clump, which become more marked within ten minutes, this is called "a probable typhoid reaction." The time allowed for the development of the reaction with the higher dilutions is by many from one to two hours, but to us thirty minutes seem sufficient. Positive results obtained in this way may be taken to be conclusive unless there be grounds for suspecting that the reaction may be owing to a previous fairly recent attack. The absence of reaction in one examination in no way excludes typhoid infection. If the case remains clinically doubtful, the examination should be repeated within a week.

Proportion of Cases of Typhoid Fever in which a Definite Reaction Occurs, and the Time of its Appearance.—Of the large number of cases examined in the Health Department laboratories, 20 per cent. gave positive results in the first week; about 60 per cent. in the second week; about 80 per cent. in the third week; about 85 per cent. in the fourth week and about 75 per cent in the second month of the disease. In 90 per cent. of the cases in which repeated examinations were made (hospital cases) a definite typhoid reaction was present at some time during the illness. The majority of the cases examined which gave no reaction by the twenty-first day failed to give at any time a definite reaction; exceptionally, however, the reaction did not appear until the fourth week, or in the relapse.

Persistence of the Reaction.—This peculiar property of the blood-serum usually persists in persons who have recovered from typhoid fever for several months and occasionally to a slight extent for years. An immediate marked reaction has never been observed in a 1 to 10 dilution of the blood-serum of over one hundred healthy persons examined in the Health Department Laboratories. In several hundred cases of disease other than typhoid fever only rarely did the serum give a marked immediate reaction in a 1 to 10 dilution, and here a complica-

[1] To obtain the standard dilution colors certain amounts of fluid blood are dried and then mixed with definite amounts of water.

ting typhoid infection is probable, though several cases, which had so far as we could tell no typhoid infection, gave a delayed partial reaction.

CLINICAL LECTURE.

ULCERATIVE STOMATITIS; ANEURISM OF THE AORTA; CHRONIC NEPHRITIS: ERYSIPELAS OF THE FACE.[1]

BY H. A. HARE, M D.,
OF PHILADELPHIA;
PROFESSOR OF THERAPEUTICS IN THE JEFFERSON COLLEGE AND PHYSICIAN TO THE HOSPITAL.

THE first patient that I show you to day is a little girl eight years of age who has been brought here by her mother because of a very violent inflammation of the mucous membrane of her mouth. Owing to the straightened circumstances of her parents she has been for a number of months an inmate of one of the large homes for destitute children in this city, and while, as a rule, the care of children in these institutions is admirable, this particular child has evidently been neglected; since on the visit of her mother to her yesterday, the present condition of affairs was revealed with the result that the parents immediately removed the child from the institution.

You will notice that the expression in the child's face is that of continual pain but that she cries very little; that her lips are everted and swollen and that she keeps the muscles of her face fixed in order to avoid any movements which would increase the pain which is produced by the severe ulceration in her mouth.

An examination of the buccal mucous membrane on both sides of the teeth shows that considerable ulceration has taken place and on the right side there is a large ulcer almost as big as a quarter of a dollar, which is so broad and deep that the induration underlying it extends to the skin of the cheek so that the cheek of the child feels as if a large foreign body had been introduced into it. As a result palpation reveals a great deal of brawniness of the skin, and this makes us fear that should the ulceration persist, a perforating ulcer of the cheek may develop, and the child may suffer from what is known as noma, which is an exceedingly grave condition, rarely, if ever seen except in children suffering from profound impairment of nutrition, and which is nearly always fatal both because of the severity of the lesion itself, and because the general condition of the child is so bad that it cannot withstand the severe suppuration of the ulcerative process. You will also notice that on the margins of the tongue and that on the gums around the teeth and on the lower lip on its inner surface are to be found a number of small ulcers which are quite deep and surrounded by an indurated area; and also there is a considerable flow of saliva from the mouth, which is produced by the irritation.

We have before us, therefore, a case of severe ulcerative stomatitis which will require active interference in the way of local treatment. At the same time the greatest possible care is needed in the treatment of the child's general system.

You will meet with many cases of simple catarrhal stomatitis in practice, but unless you are connected with some institution to which many children in a depraved state of health are admitted you will rarely see such a case as this. The child, like many other children who have been forced to depend upon themselves to a large extent, is older than one would expect from a statement of her years, and I feel convinced that she is sufficiently intelligent to be able use a mouth-wash. I have therefore, given her a prescription which contains:

℞	Potassium chlorate . . .	gr. xx
	Tinct. myrrh	*m.* xxx
	Elix. of calisaya	℥ j.

This is to be diluted one-half with water, and used as a mouth-wash.

If on examination of her urine we find that it is normal and that the kidneys are not irritated, I shall direct that half a dram of this mixture shall be given to the child, internally, every six hours, since the chlorate of potassium is eliminated by the salivary glands, and will continually bathe the inflamed mucous membrane.

Some of these ulcers may also be advantageously affected by touching them with a solid stick of nitrate of silver, and the pain of this application may to a large extent be decreased by applying cocain beforehand. Care must be taken that much cocain is not employed, since if it is swallowed or absorbed it may produce disagreeable symptoms, and furthermore by dilation of the capillaries in the healthy mucous membrane may disturb the local nutrition of the mucous membrane of the mouth.

The second patient that I wish to speak to you about is a man who comes before us suffering from a very large aneurism of the descending portion of the aortic arch. It has eroded part of his ribs and sternum, and is protruding at least two inches above the level of his chest wall, yet curiously enough he has at no time suffered any pain whatever, nor is there any evidence of pressure upon nerves, blood-vessels, or bronchial tubes. He has some dyspnea on exertion, and is forced to keep to his bed because of the palpitation of the heart which ensues if he makes any effort. Because of the fact that his aneurism is typically of the sacculated form, the patient presents a type of that variety of aneurism which should be treated by means of the introduction of a coil of gold wire and electrolysis. You will remember that I performed this operation in this clinic in March, 1898, with much benefit in a case of aortic aneurism, and although the man died a number of months later from an extension of the aneurism in the distal portion of the aorta, the operation itself may be considered a distinct success because he lived for a number of months in comparative comfort, and was up and about, whereas he had been bedridden before the operation. I have performed this operation in another case which I am about to report in one of the medical journals, with an equal degree of success. One would suppose that the introduction of a large hollow needle through the thin wall of an aneurismal sac might tend to produce sudden rupture of the sac and instant death.

[1] A Medical Clinic at the Jefferson Medical College Hospital.

But the operation has been performed twenty-five times so far as I know, and in no instance has this accident taken place. During the last year I believe that the operation has been performed as frequently as it had been done in the preceding five years, largely because of the good results which have ensued.

The third case that I wish to show you is a man who is suffering from chronic parenchymatous nephritis. You will notice the pallor of his skin which is quite characteristic of the disease, and you will also notice that his face is slightly puffy and that his lower extremities are slightly edematous. In the presence of any condition of edema, it is always your duty to carefully examine the heart in order to discover whether it is in any way responsible for the effusion of fluid into the subcutaneous tissues. If it is, the patient should receive some cardiac tonic, such as digitalis, with the object of improving the action of the heart. If, on the other hand, the heart-muscle seems to be doing its work properly, digitalis is not needed, and you may, if you choose, administer a preparation which for many years has had great popularity in this condition, namely: liquor ferri et ammonii acetatis, or Basham's Mixture, which preparation is supposed, by reason of the iron which it contains, to relieve the anemia, and by reason of the acetate of ammonium to act as a diuretic and so increase urinary flow. I am convinced that in a considerable proportion of cases it is wiser to administer a small dose of iron in pill or other form, and to give the liquor ammonii acetatis alone; as, under these circumstances, the patient gets the diuretic influence without having his system overloaded with iron. There are but a very few grains of iron in a healthy person's body, and the administration of several grains a day places a quantity of this material in the body of the patient which is far in excess of its needs, and which must be stored or eliminated. Moreover, large doses of iron are somewhat apt to produce constipation and "fulness of the head;" both of which conditions are to be avoided in the presence of renal disease, since the bowels ought always to be kept active in order to aid the kidneys in eliminating all impurities from the body. In some of these cases where the kidneys seem to be exceedingly torpid very good results follow the combination of liquor ammonii acetatis and small doses of tincture of cantharides, about 1 or 2 minims of the latter at the most, three times in twenty-four hours. With this treatment the urinary flow is frequently markedly increased. Another remedy which you should remember is useful in this class of cases is the old-fashioned mixture containing bitartrate, or acetate, of potassium and juniper berries. An ounce of juniper berries is added to a pint and a half of water, and this is boiled down to a pint. The fluid is then strained, and to it is added ½ to 1 ounce of bitartrate of potassium. This mixture is then given to the patient in wineglassful-doses, so that he takes the entire quantity in twenty-four or thirty-six hours. This usually produces a profuse urinary flow, and is also apt to move the bowels.

The last case that I show you is one of erysipelas of the face. The infection has evidently taken place from a break in the skin at the angle of the nostril. This is a common point of entrance for the infectious micro-organism of erysipelas, which, you will remember, is practically identical with the streptococcus of ordinary pus. Every case of facial erysipelas which I have seen during the past ten or twelve years I have treated by first cleansing the skin thoroughly with antiseptic lotions and then applying quite a thick layer of ichthyol ointment of the strength of 2 or 3 drams to 1 ounce of lanolin. A piece of surgical lint large enough to cover the face, with holes cut in it for the nose, eyes, and mouth, after having been smeared with the ointment, is laid over the inflamed parts. This application is a very efficient one in relieving the sensation of pain and burning, and while the odor of ichthyol is somewhat objectionable to some persons, its efficiency overcomes this slight disadvantage. To a certain extent the odor of ichthyol can be overcome, you will remember, by adding to the ointment a few drops of oil of citronella.

CLINICAL MEMORANDUM.

THE TREATMENT OF THE PERITONEAL CAVITY IN CERTAIN RARE FORMS OF INFECTION FROM APPENDICITIS.

BY JOHN A. WYETH, M.D.,
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PROFESSOR OF SURGERY AT THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.

THE two following cases are submitted to demonstrate; first, the method of disinfection, as far as possible, of the general peritoneal surfaces of the abdominal cavity after a widespead infection due to peritonitis, and; second, the method of dealing with a partial or localised infection.

CASE I.—V. L., male, aged twenty-seven years, lawyer. Family and previous histories have no bearing on this case as presented. On the night of February 24, 1899, having eaten heartily at dinner at 7 o'clock, and added to this a heavy supper at midnight, he retired at 1 A.M., but could not sleep on account of restlessness and certain painful sensations which seemed generally diffused over the abdominal region. Early on the morning of the 25th, of his own accord, the patient took two Carter's liver pills, followed later by free draughts of Hunyadi water. This produced free purgation, but no especial relief to the pains which continued, but which were not severe enough to require the attendance of a physician until midnight of the 25th, twenty-four hours after the first symptom of his illness. His temperature at this time was 103.6° F., pulse 140. At 9 o'clock in the morning of the following day, thirty-two hours after the first suggestion of trouble, I saw the patient. His pulse was 120, temperature 103.2° F.; abdominal walls rigid and excessively tender over the region of the appendix. His face wore the expression of collapse peculiar to those suffering from dangerous lesions of the abdominal viscera or of general peritonitis. He was carefully lifted to a stretcher without leaving the recumbent position, placed in an ambulance and conveyed to the private pavilion of the New York Polyclinic Medical School and Hospital.

I operated on him at 2 o'clock, February 26th, thirty-

eight hours after the first symptoms. On opening the abdomen a quantity of seropurulent liquid flowed from the general peritoneal cavity. This fluid had the offensive odor common to general peritonitis following gangrene of the appendix, or from perforation of the intestine. The appendix was found gangrenous but was not yet ruptured. It was tied off close to the cecum and general irrigation of the entire peritoneal surfaces was done in the following manner:

A normal salt solution, at a temperature of 116° F. to 115° F., was placed in a large irrigator at a height of about five feet above the level of the patient. To the end of a pipette a good sized rubber tube was attached, and this was carried first into the upper portions of the patient's abdomen in the region of the spleen which was thoroughly flushed with the salt solution. The end of the tube was then carried in front of the transverse colon and over the stomach, underneath the omentum; then into the hepatic region, behind the pockets formed between the ascending and descending colon and the abdominal wall. The quantity forced through in this portion (the upper part of the abdominal cavity) was two to three gallons. The same general flushing was applied to the deeper portion of the cavity, the fluid being allowed to run out through the incision after it had over-distended the abdominal cavity. I then repeated this irrigation thoroughly. By the use of long streamers or pieces of sterile gauze, carried in by the hand, as much of the fluid was removed as was possible. I consider this an essential feature in the treatment of this particular form of general peritonitis, and extraordinary care should be given to the various pockets which exist behind the ascending and descending colon, and to the under surfaces of the liver, spleen, stomach, and the great omentum.

The same drying out process was applied to the loops of the small intestines and to the pelvis, to which the greatest attention should be given. A good-sized wick of absorbent gauze was then placed behind the bladder in the most dependent portion of the pelvic cavity and brought out at the external wound. Another large wicker drain was laid along the outer side of the ascending colon and also brought out at the incision. Sutures of silkworm gut were inserted but the edges of the wound were not approximated at the time of the operation, this being left open for drainage. The patient rallied well from the operation, temperature gradually declining, and recovery was uneventful. The gauze packing and drains were removed on the third day, and two rubber tubes inserted in the tracks which the gauze left. At this time the silkworm gut sutures were tied so as to bring the edges of the wound well together, but without too much pressure on the tubes. The patient was required to remain in a recumbent posture for six weeks in order to permit as complete a union of the wound as possible, and to guard against the formation of a ventral hernia. At this time, nine months having elapsed, he has no suggestion of ventral hernia and is in excellent condition.

Case II.—E. B., male, five years old. On September 19, 1899, the child complained of pains in the abdomen, vomited, and was found to have slight elevation of temperature. His father, an army surgeon, gave him purgatives, cleansing the bowels thoroughly. Symptoms of pain and the fever disappeared.

On the 22d of September the symptoms recurred, temperature was found to be 102.5° F., and pulse 100. By this time the pains were well localized over the region of the appendix. The child was brought to my private infirmary on this same date (September 22d), and on examination his condition was deplorable. Although the temperature was only 101° F., and the pulse 100, he was in marked collapse. His father told me that he had noticed symptoms of collapse while on the train coming to the city. It is very probable that the rupture of the appendix demonstrated by the operation occurred at that time.

I placed him at once under the influence of chloroform, and upon opening the abdomen found a gangrenous appendix which had ruptured. A large quantity (probably as much as two teacupfuls) of soft fecal or intestinal contents had escaped and was in contact with a very considerable surface of the peritoneum of the abdominal wall and contiguous loops of the intestines. A general peritonitis was not yet established as in the preceding case. After tying off the appendix all the loops of the intestines which were found in contact with the escaped feces were thoroughly cleansed. The child was tilted to the right side, and the intestine was thoroughly mopped with wisps of gauze dipped in 1 to 2000 bichlorid solution, and dried as soon as the washing was completed. Not more than one foot of the intestine at a time was brought out through the incision, and this was returned as soon as it was cleansed. The peritoneal surfaces, other than intestinal, were then thoroughly mopped off in the same way and dried. As there was no general peritonitis, no general flushing of the cavity was undertaken.

An effort was made to hold all portions of the intestines which had come in contact with infectious material as near the wound of incision as possible. These were walled off from the general cavity with layers of gauze, and silkworm gut sutures inserted so that the edges of the wound might later be approximated. A good-sized wicker drain was placed between the cecum and ascending colon and the abdominal wall, and a large wicker gauze drain carried down into the lowest portion of the pelvic cavity in contact with the posterior surfaces of the bladder. The child rallied from the operation, was kept carefully on the back, tilted a little towards the right side. No opiates were administered. Twenty-four hours after the operation, symptoms of obstruction of the intestines being present, which I feared were due to the packings of gauze, the child was again placed under chloroform and all the gauze carefully removed. As the distention of the intestines was not immediately relieved by this procedure, a second exploratory wound was made above the umbilicus in order to render it positive that there was no twist or knuckle obstructing the lumen of the bowels at this point. While the patient was under the anesthetic an enema of two ounces of sulphate of magnesia was thrown into the rectum and sigmoid colon.

The bowels moved within six hours after the operation and with this all symptoms of obstruction disappeared and the patient made an uneventful recovery.

The method carried out in the first of the foregoing cases is one that I always practise when there is a well-established general peritonitis with a large quantity of fluid which has the peculiar, strong, offensive odor of decomposition which is met with in the larger proportion of these cases. The irrigation is essential and the careful drying out of the cavity is in my opinion equally an important feature of the treatment. In certain cases when there is a very considerable quantity of fluid which has been brought in contact with the intestines, but which has not an offensive smell, it is the better practice in my opinion to drain the fluid and dry the peritoneal surfaces without irrigation. When the infectious material has not been walled off by adhesions, but has spread over a limited area of the free peritoneal cavity in the neighborhood of the appendix or in the deeper portions of the pelvis, it is better not to irrigate for fear of carrying the infection to those portions of the abdominal cavity not yet involved. In this case it is better, through a free incision, to practise local disinfection and establish wicker drainage from the two important points, *viz.:* the cul-de-sac between the cecum, ascending colon, and abdominal wall, and the lowest portion of the pelvis, immediately behind the bladder. In certain instances, in women, it is advisable, after disinfecting the vagina as thoroughly as possible, to open through Douglas' pouch, using gauze drainage in this direction.

The administration of calomel triturates and salines to move the bowels every day is an essential adjuvant to the management of these cases, while the employment of narcotics is contraindicated.

MEDICAL PROGRESS.

What Is the Secret of Cure of an Ulcer of the Leg?—CHIPAULT (*Centralb. für Chir.*, October 7, 1899) lays stress on the frequent change of the dressing and bandage in the treatment of ulcerations of the leg. As granulations rapidly accustom themselves to a stimulating medicinal substance, it is, therefore, necessary to change the application every few days. He attributes the success which some men have in the cure of these ulcers to the fact that in their practice they follow out these principles.

Endocarditis and Bacillus Influenza.—MABEL F. AUSTIN in a preliminary report (*Johns Hopkins Hospital Bulletin*, October, 1899) amplifies our knowledge of the relationship existing between influenza and endocarditis. The occurrence of endocarditis during an attack of influenza as a clinical fact has been known for some time, but the presence of the micro-organism, though demonstrated for other tissues of the body, has not before been reported in the endocardium. In this contribution an organism closely agreeing in its morphological features to the bacillus influenza is described as having been isolated from three fatal cases of influenza. Unfortunately the investigator was unable to cultivate the bacillus, and hence the absolute proof of casual relationship is not obtained.

Hematoma of the Neck Simulating Aneurism.—LARUE (*New Orleans Med. and Surg. Jour.*, October, 1899) describes a pulsating tumor of the neck which several physicians took to be an aneurism of the common carotid. The tumor followed a stab-wound which the patient had received by a pen-knife ten months previously, and as it had produced vertigo and an irregular heart action its removal was decided upon. When exposed it was found that it was not an aneurism, but an encapsulated hematoma, some of the clots having become laminated. The sac was opened, thoroughly cleansed, and sutured to the skin. It was interesting to note the slight change which had taken place in the blood-clots, although they had existed for nearly a year.

Methylene-blue as a Hypnotic.—VALLON and WAHL (*Le Progrès Médical*, October 21, 1899) have tested the hypnotic properties of methylene-blue by administering it to six insane patients. The result in one instance was very satisfactory. No special results followed its administration to four patients, while the delirium of one patient was rendered much worse by it, the color of the urine which he passed leading him to suppose that he had been poisoned, and giving him other ideas of persecution. After such a brief test, however, the authors hesitate to deny the claims which have been made that methylene-blue is a hypnotic in the insomnia of insanity. The medicine was given in capsules containing about 4 grains.

Fatal Case of Trichinosis.—W. T. HOWARD (*Philadelphia Med. Jour.*, December 2, 1899) gives a detailed description of a fatal case of trichinosis from both the clinical and pathological aspect. An interesting feature of the disease is the occurrence of eosinophile cells in the blood- and heart-muscles, attention to which was first called by T. K. Brown, working at Johns Hopkins. The observations of Howard confirm the findings of this worker with reference to the marked increase of eosinophile cells in the heart-muscle, but he was unable to substantiate the claim that a general eosinophilia of the blood is a constant feature. Howard believes that in acute trichinosis cells with eosinophile granulations may be stored or formed in the heart-muscle, the peribronchial tissue, and the spleen. A decided increase in the number of eosinophiles in the gastric and intestinal mucosa suggests their formation *in situ* under the influence of the trichina, while these latter were either in the intestinal canal or closely adjacent tissues.

The First Suburban Sanatorium in Russia for Indigent Tuberculous Patients.—PAVLOWSKAJA (*Rev. de la Tuberculose*, October, 1899) chronicles the inauguration of the first suburban sanatorium opened in Russia for poor phthisical patients. It is at Taitzi, and is the result of three years of agitation by a medical society at St. Petersburg. It is built upon land given by the Emperor, who also contributed half a million rubles toward its establishment. It contains accommodations for twenty men and twenty

women. In the treatment of the patients attempts have been made to realize all the advantages of good diet, abundant air, physical and moral repose, and agreeable occupation for such as are able to perform any labor. The success of the institution is shown by the fact that fifty per cent. of the patients treated during the first year were markedly improved; twenty per cent. were slightly improved, while sixteen per cent. and fourteen per cent. respectively were unimproved or died.

Cerebral Hemorrhage and Labor.—E. M. LAZARD (*Philadelphia Med. Jour.*, December 2, 1899) reports an unusual case of cerebral hemorrhage occurring during labor in a young woman of thirty-one years of age. She had had two previous confinements; one with instrumental interference, the second normal. In the present instance she gave birth to a six-month's fetus after twelve to fourteen hours of labor, and during the expulsion of the membranes became semiconscious, with accompanying stertorous breathing. Four days following labor she died. During the interval of labor and death she remained in a comatose condition, following two general convulsions, which occurred on the first day. Necropsy showed the pia mater over left occipital lobe and part of the cerebrum to be intensely congested. There was rupture of a blood-vessel in the left corpus striatum, a clot of blood extending from the posterior to the anterior part of the internal capsule, and into the lateral ventricle. There was also a small hemorrhage in the right caudate nucleus and blood on the surface of the corpus striatum.

Intestinal Obstruction Caused by a Piece of Gauze.—REHN (*Archiv für Klin. Chir.*, Bd. 60, p. 296) relates another instance to be added to the series of curious results which follow the leaving of a gauze compress in the abdominal cavity. This accident has led to fatal peritonitis, but sometimes without the occurrence of inflammation the compress has broken through into the intestine and has been passed from the anus. Rehn's patient was a woman aged thirty-two years, from whom an adherent and inflamed tube was removed by laparotomy. The pelvis was drained with gauze, which was removed on the eighth day. The wound healed in a short time, and for four months the patient was apparently well. She then complained of pains in the stomach, and a week later reentered the hospital, presenting the symptoms of intestinal obstruction. After ether was administered, a distinct tumor was palpable in the right side of the abdomen. Laparotomy was performed, and sixteen inches of the upper portion of the small intestine being found necrotic was resected. In the lumen of the resected portion of intestine was a gauze compress which, when spread out, measured about a yard square. Its presence could not be explained. The patient made a good recovery, but neither she nor the physicians were able to explain how the compress could have entered the upper portion of the small intestine.

The Influence of Marriage upon Hysterical and Chlorotic Women.—MEINERT (*Centralbl. für Gyn.*, November 4, 1899) says that formerly the idea was generally held that marriage exercised a beneficial effect upon hysteria, but that at present the opposite view is the popular one. According to his observation a change in condition is sometimes productive of benefit and sometimes the reverse is the case. In the light of the modern idea that hysteria is a psychosis, the new home of the hysterical woman after her marriage may be looked upon as a private asylum in which the hysterical patient may or may not be wisely treated. In chlorosis, too, according to this author, marriage may be productive of good or evil effects, but on totally different grounds. Here improvement keeps pace with an increase in the girth of the patient. For instance, in pregnancy, especially in the second half of it, chlorotic patients are almost invariably in an extremely good physical condition. The gradually growing uterus replaces the sunken abdominal organs and opens up the narrow aperture of the thorax, which is the cause of the chlorotic enteroptosis. This action is increased with each new pregnancy if the patient does not reproduce the previous injurious condition of affairs in the meantime by returning to tight clothing. In general the chlorotic symptoms of young women vary inversely to the circumference of their waists.

Treatment of Acute Dyspeptic Diarrhea.—KENNER (*North Carolina Med. Jour.*, November 5, 1899) treats fermentative diarrhea, which, in the vast majority of cases, is due to improper diet, by evacuation of the intestinal canal, followed by a soothing and disinfecting remedy. The best cathartic in such cases is sulphate of magnesia given in doses of ½-ounce to 1 ounce. After it has produced the characteristic watery stools, 10 grains of orphol are given every two hours. This remedy contains eighty per cent. of oxid of bismuth and twenty per cent. of betanaphtol. It will more rapidly relieve these attacks of diarrhea than any other agent which the writer has tested. A cure will, however, be fruitless unless a correct diet is also insisted on. Milk, rice, fine flour puddings and bread, toast, eggs, crackers and cheese, dried meats, and fish in small quantities should be given instead of fresh meat, fresh fish, and vegetables.

A Perfect Antidote for the Poison of Snakes and Spiders.—KENT (*Charlotte Med. Jour.*, November, 1899), has convinced himself that one of the club mosses, known as *selaginella apus*, is a perfect antidote for the poison of snakes and spiders. This plant is familiarly known as "snake-moss," and its virtues were known to the Indians of Virginia. About ½-dram of the moss is macerated thoroughly with 1 ounce of sweet milk. The milk containing small fragments of the moss is then drunk by the patient, while the balance is bound upon the wound. The writer cites a number of cases of successful use of this remedy, of which the following is a good illustration:

James T., age eleven years, was bitten over the instep of his right foot by a large copperhead moccasin. One hour after the bite he was suffering much pain, and his foot was swollen to twice its natural size. Moss was at once given with the milk, with almost immediate relief of pain. The next morning the swelling was all gone, and the boy was at play, with only the scratch of the bite to remind him of his encounter with the snake.

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SATURDAY, DECEMBER 16, 1899.

PNEUMONIA AND ITS TREATMENT.

It is a source of gratification to be able to present to our readers this week Dr. Andrew H. Smith's able and extremely suggestive paper on this very timely subject. The interesting discussion that followed its reading at the New York Academy of Medicine also appears in another column.

Dr. Smith's views upon the essential pathology of pneumonia are certainly novel. The double circulation in the lung, the bronchial and the pulmonary, is a factor in the nosology of pneumonia deserving of serious attention, and yet, if we mistake not, this is the first instance in which it has practically been taken into consideration in its relation to pneumonia. That it must modify in an important way the course of inflammatory processes when they occur in the lung seems most reasonable. The view that pneumonia is not really a pneumonitis or true inflammation of the lung tissue, but only a growth of cultures of the pneumococcus on the serum exuded into the alveoli with consequent absorption of toxins from these cultures, to explain the constitional symptoms of the disease, may not be generally accepted in its entirety. No one can read Dr. Smith's article supporting this opinion, however, without feeling that original, suggestive, and indeed very practical theories are opened up by it.

As to the treatment of pneumonia, unfortunately it cannot be said that there is anything new. It is evident that we have yet to wait for the development of a specific, perhaps antitoxic, treatment. Authorities generally are agreed at present that the indication is for antiseptic treatment in some form. Whether the antiseptic to be employed shall be quinin or one of the salicylates or a creosote preparation is a matter of individual opinion. Very probably calomel because of its, at least, supposed antiseptic properties should be added to this list. Calomel and quinin have long been in use, however, and have largely lost their vogue. The salicylates and the creosotes are now the most popular remedies. For creosote or its carbonate there is at present a very favorable medical sentiment.

There remains as ever the symptomatic treatment. Whether ice or poultices should be used for the pain and restlessness at the beginning of the affection opinion is divided. The employment of ice is becoming more and more general in this country, however, as it has in Europe for the last ten years. Most of the remedies, quinin, the salicylates and creosotes, that are claimed to modify the course of the pneumonia itself, do undoubtedly lower the temperature. Whether it is ever advisable deliberately to lessen the fever unless hyperpyrexia, 105° F., or more, develops is an extremely doubtful question. A large series of statistics analyzed some time ago by Wilson Fox in England seems to show that the largest percentage of recovery from pneumonia occurs in cases in which the temperature during the most of the disease has ranged between 104° F. and 105° F. Fowler and Godlee, in their recent book on "Diseases of the Lungs," commenting on this, say that in their experience "a low range of temperature is not necessarily a favorable sign." They advise against all direct antipyresis when the temperature remains in the proximity of 104° F.

Sustaining treatment and stimulation still remain the sheet anchor in the treatment of pneumonia. Some years ago one of our best American clinicians said that if he were to be given on the one hand all the drugs of the pharmacopœia except alcohol, and

on the other alcohol alone, for the treatment of pneumonia, he should not hesitate to choose the latter. Despite the advances in treatment during recent years he would probably consider this view as true now as when first promulgated. Eichhorst of Zurich, a most conservative clinician, in the last edition of his text-book expresses the opinion that alcohol is not used sufficiently in pneumonia, and advises its exhibition in various forms almost from the beginning of the disease. Other stimulants are not as effective. Strychnin seems by common agreement to stand next in efficiency to alcohol. Despite Petrescu's results (two per cent. mortality in young adults) it is doubtful if the use of digitalis in large doses is advisable.

Pneumonia remains then a disease in which symptoms must be met as they arise, and in which the nursing of the patient means most. Undoubtedly at least as much harm as good has been done by supposedly specific medication. Large doses of strong drugs have been recommended at various times for the treatment of the disease even by experienced and conservative physicians, but the conviction has grown that they are a serious mistake. Drugs that are depressent in action must be used only with the greatest circumspection, no matter how cardinal the indication for which they are exhibited. The care of a pneumonia patient belongs as yet to the art not the science of medicine, and gives occasion for the exercise of the highest practical medical skill.

RECURRENCE AFTER OPERATION FOR MAMMARY CANCER.

TWENTY years ago Professor Volkmann of Halle offered the suggestion that mammary cancer removed by operation might be considered as definitely cured if there was no recurrence at the expiration of three years. The suggestion was accepted by surgeons generally as a practical working conclusion. Those were days, however, when what is recognized as radical operations for cancer of the breast were as yet unknown, and the patients that remained free from the disease at the end of three years were few. In the case of the survivors there grew up finally the suspicion that the growth could not have been malignant. Even surgeons of wide experience began to doubt if they had ever seen a case of cancer absolutely cured by operation.

As operative intervention has come to be applied earlier and earlier in the disease and the operation has become more radical, it develops that Volkmann's rule suffers many exceptions. Cases of recurrence of cancer after four years are frequently reported and not infrequently even after longer periods. Out of 90 cases operated on by Barker at University College, London, during the last twenty years, 25 are now alive, but in only 6 of the cases has more than five years elapsed since the operation. In five cases deaths from recurrence have taken place later than five years after the operation. One of the patients in whom recurrence was the cause of death had lived seven years and eight months, while two died from the same cause six years and four months after the operation. It is evident then that even the six patients who have survived the operation more than five years, without recurrence, are not thereby assured of freedom from all further cancerous invasion.

Only two patients have survived ten years since the operation, and one of these compels a most unfavorable prognosis. She has noticed a small lump for three years, the nipple has been retracted for six months, the skin is involved, the axillary glands palpably affected, and the tumor fixed to the pectoral muscle. The other patient, who is alive eleven years and seven months after operation, is in an almost equally unfavorable condition. She had noticed the tumor for five years previous to operation, and the glands in the axilla though palpable, were found at the operation extensively cancerous, though there was not in her case any adherence of the tumor to the pectoral muscle. In both cases the cancer was of the scirrhus variety, in women aged respectively forty-five and fifty-four, so that it is evident that the type of cancer is one of the most important elements in prognosis and that it means much more than either the duration of the growth or its extent, though these are usually considered the all-significant factors.

Two views of this fact of late recurrence of cancer have been recently discussed. The Italian and French students of malignant neoplasms, who consider them as due to parasites, argue that late recurrences substantiate the parasitic theory, since it is easier to understand long latency on the part of par-

asites than of tissue elements aroused to malignant action. Simpson, of University Hospital, discussing these cases of Barker's in the Liston Prize Medal Essay for 1898–1899 of University College, London (London *Lancet*, July 8, 1899), takes the position that these cases of late recurrence seem to indicate that cancer is a general infection with a special manifestation. Either of these views are of extreme interest because of their practical bearing on the cancer problem, and make clear that the careful observation and collation of cases surviving for years after successful operation may throw great light on the disease.

THE MEDICAL ARRANGEMENTS FOR THE TRANSVAAL CAMPAIGN.

The Medical Department of the British Army has adapted its organization most carefully to the needs of the campaign and the nature of the country, and so far it is working with admirable smoothness. Each army corps has roughly speaking about forty-five surgeons in immediate charge of the men at the front, who are also responsible for the sanitation of their respective camps. Under these are a full force of special Army Medical Corps men, and a supplementary body of bearer companies, one to each brigade, each one consisting of forty-four privates, three commissioned and thirteen non-commissioned officers. Thus the medical officer is not left to the pleasure of the commanding officer of the company or division for a special or chance detail of men for this important service, as was unfortunately the case on several occasions in our late experience in Cuba. About a third of these bearers accompany the regiment into action as "stretcher squads" collecting the wounded and bringing them back to the first or "collecting" station. Here will be placed the ambulances of the "first line," which will receive the men and carry them back to the dressing-station where sufficient security and leisure is afforded for a full and careful examination of the wounds. After these have been attended to and dressed the patients will be placed in the ambulance in waiting, known as the "second line," and carried back to the field hospital.

A field hospital is attached to each brigade and has equipment for 100 beds, though these are so arranged that sections of twenty-five can be utilized separately if required. Fifteen of these are already equipped and their staff consists of four medical officers and a quartermaster, twelve sergeants and corporals, twenty-three privates of the Royal Army Medical Corps, and nineteen privates of the Army Service Corps, for transport duties. From the field hospital the wounded will be sent to the nearest post provided on the railway, and those unable to travel detained at a special stationary hospital arranged at the nearest convenient point on the line, which again has accommodation for 100 patients, and an equipment similar to that of the field hospital. Four of these have already been put in the field in South Africa.

Those of the wounded who are in condition to travel will be sent on by special hospital-train or ambulance-train, of which two are already in the field, and one other in process of construction at Birmingham, to the Base Hospital, which will be at or near one of the ports of embarkation and have a capacity of 500 beds. From this point the patients will be brought by the hospital ships, "Trojan" and "Spartan" to Capetown to the Wynberg Sanatorium Hospital, and from here such as require to be invalided home will be conveyed by the new "Princess of Wales" hospital ship and the American Ladies' hospital ship "Maine" to England.

Thus a perfect chain of carefully arranged relay stations, with gradual sifting out and classifying of the cases has been planned, which on paper at least appears to leave little to be desired. As the country though which the lines of communication run is fairly well settled and fertile there ought to be little or no difficulty in getting abundance of supplies of vegetables and fresh foods at the various stations. The point regarded as likely to be weakest in the system is that of the Base Hospital in Durban, for while the climate of the high veldt, though almost tropical by day and very cold by night, is far from ideal, yet upon the whole it is regarded as healthful and rather bracing than otherwise; at the coast, on the contrary, especially during the summer season which is just beginning, the climate is hot, damp and depressing, and it would be highly desirable to either detain the wounded at some point in the interior, as long as proper supplies can be secured, or to make the stay at Durban

before transferring to the sick-transport for Capetown as short as possible.

So far everything has worked perfectly but of course as yet only about a fourth of the total strength has been actually engaged, and it remains to be seen how the system will bear the strain of the heavier casualty lists of the entire triple line of advance. One condition has been found much more favorable than was anticipated and that is, the remarkable cleanness and freedom from complications, already alluded to, of the wounds made by the Mauser bullets, so that even out of the large lists of wounded, bearing eloquent testimony to the accuracy of the Boer marksmen, which have resulted from the comparatively small engagements already fought, only a small per cent. have had to be sent further back than the field hospitals, so that the stationary hospitals are not at all crowded and no accumulation of any importance has as yet occurred at Durban.

The entire strength of this admirable army of peace which nineteenth century civilization and humanitarianism are sending into the field, to do its best to counteract the effects of the huge engine of destruction which it accompanies, amounts to nearly 3100 men and nurses with 282 medical officers of the Army Corps, and 68 civilian surgeons, almost a brigade in itself. While three hundred years ago our warlike ancestors would probably have regarded this splendid corps, as so much good material withdrawn from the fighting strength, yet as a matter of actual increase in practical fighting power there is no possible capacity in which these men could be employed to better effect. Sickness disables three times the number that either the bullet or the bayonet does, and the army which can put the largest percentage of sound and healthy men into the fighting line at the end of their advance or retreat as the case may be, is the one which is almost certain to be successful in the campaign. It is easy enough to pour men into the field in thousands, but to get them to the front in fit physical condition is a far more difficult problem, and this an efficient Army Medical Corps only can solve.

ECHOES AND NEWS.

Dr. Carr Assumes the Editorship of "Archives of Pediatrics." —With the January, 1900, number Dr. Walter Lester Carr of New York will become the editor of *Archives of Pediatrics.*

Leprosy in the Island of Guam.—In a report to the Navy Department, Lieutenant Commander V. L. Cattman, who has visited the Island of Guam, refers to the existence of leprosy in that island.

Six Children at a Birth. — It is reported that Mrs. J. Karl of Mobile, Alabama, gave birth to six male children, December, 8, 1899. Mother and children are reported as doing well.

American Nurses Honored in London.—The British Medical Society recently gave a reception to the American nurses who are to accompany the hospital ship "Maine," when she sails for South Africa.

A Practising Physician at Ninety-Six.—Dr. Charles F. H. Willgohs, the oldest physician in Ohio, has lately celebrated his ninety-sixth birthday. He is said to be in good health and to be still in active practice.

New Serum for Tuberculosis.— Dr. A. R. Jenkins of Chicago, who has studied with Professor Koch, declares he has discovered a serum which will reveal the presence of tuberculosis before it can be detected by other known means.

Medical Advisers of the Czar.—Through the *Medical Press* we learn that the Czar has no fewer than twenty-seven medical attendants. They include a physician-in-chief, honorary physician, three surgeons, and four honorary surgeons, two court physicians and three specialists for the Czarina.

Queen's Gift to the "Maine."—The Queen has given a union jack to the hospital ship "Maine" as an evidence of her gratification at the work of the American women who raised the funds for fitting out that vessel. On December 16th the Duke of Connaught presented the flag on behalf of her majesty.

An International Congress on Tuberculosis.—The *British Medical Journal* says that it is proposed to hold an international congress in London during May, 1901. The congress is to be held under the auspices of the National Association of Great Britain for the prevention of consumption and other forms of tuberculosis.

Practitioner's Society of Dallas (Texas).—On December 1st the above-named society was organized at the Hermitage Hospital and the following officers elected: Lawrence Ashton, M.D., president; J. B. Titterington, M.D., vice-president; C. L. Johnson, M.D., secretary. The next meeting will be held at the residence of the president on Monday, December 18, 1899.

Expectoration Fine Reduced. — The Health Board of Hoboken, N. J., recently reduced the fine imposed for expectorating in public places from $10 and $25 to a uniform fine of $3. It was thought that the police refrained from making arrests for the offense of expectoration be-

cause the public considered the penalty too severe. This seems to be a wise and practical movement.

A Prize Fund for Institute of France.—M. Osiris, a wealthy Parisian, noted for his charities and public spirit, has presented to the Institute of France a sum representing an annual income of 32,000 francs for a triennial prize of 100,000 francs for the most remarkable work or discovery of general interest, especially in the fields of surgery and medicine in exhibition years. The prize is open to all countries.

Business Committee of the New York State Medical Society—The President of the Medical Society of the State of New York has appointed the following Business Committee: Dr. Wendell C. Phillips, Chairman, 350 Madison Avenue, New York; Drs. Henry L. Elsner, Syracuse; Chauncy P. Biggs, Ithaca. Communications concerning papers to be presented at the next annual meeting, January 30 to February 1, 1900, should be sent to them.

Southern Medical and Gynecological Association.—The following officers were elected: President, Dr. A. M. Cartledge, Louisville, Ky. Vice-presidents, Drs. Manning Simons, Charleston, S. C., and W. P. Nicholson, Atlanta, Ga. Secretary, Dr. W. G. B. Davis of Birmingham, Ala; Treasurer, Dr. W. D. Haggard, Jr., Nashville, Tenn. Atlanta, Ga., was selected as the place for holding the next meeting in 1900. Time, second Tuesday in November.

Medical Hero of Transvaal War.—Surgeon-Captain R. A. Buntine has recently performed a valient deed under Boer fire and is likely to receive the V. C. from the authorities. While on patrol duty the Natal Carabiniers were surprised by ambushed Boers and forced to retire, leaving a wounded trooper on the ground. Dr. Buntine with his servant rode back, dismounted, placed the wounded man on his horse, and then in the midst of a sharp rifle practice, ran back to camp. All three arrived in safety.

Poisoning by Refrigerated Meat.—The poisoning of 200 soldiers from eating refrigerated meat is reported. According to a letter received 200 of the 1300 men of the Twenty-fifth Regiment were poisoned while en route to Manila on the transports "Rio de Janeiro" and "Sikh," by eating fresh beef supplied the vessels at Honolulu. One man died despite the efforts of the surgeons. A lieutenant in the regiment attributes the poisoning to a faulty refrigerating plant whereby some of the acids used in making ice came in contact with the meat.

New Jersey Sanitary Association.—The New Jersey Sanitary Association in session at Atlantic City during the past week elected officers as follows: President, George W. Howell of Morristown; first vice-president, Herbert B. Baldwin of Newark; second vice-president, H. Brewster Wills of New Burnswick; third vice-president, Dr. J. L. Leal of Paterson; recording secretary, James A. Exton of Arlington; corresponding secretary, N. L. Wilson of Elizabeth; treasurer, George H. Ollcott of East Orange; Chairman of Council, M. N. Baker of Montclair.

Agitating Mrs. Maybrick's Release from an English Prison.—In view of the fact that American women have been appealed to by Lady Randolph Churchill to assist in raising funds for the equipment of the hospital ship "Maine," the Woman's Committee of the New York Medico-Legal Society has addressed a letter to Lady Churchill asking her to seize upon the present good will and friendly obligations to urge upon the Home Secretary of England the release of Mrs. Maybrick. This American woman, it will be remembered, is now undergoing a prolonged imprisonment for the alleged murder of her husband.

Spain Left Off the Map.— It seems evident that the plague scare has upset the geographical equilibrium of our estimable contemporary the *New York Medical Journal*. In an editorial of the issue of the 18th of November, referring to a hygienic crusade against various insect-pests, they make the following interesting comment on the local geography of France and Portugal: "If the appearance of the plague on the frontier between France and Portugal leads to the destruction," etc. It may be that Spain has been lost from the map in the estimation of the editor, since our recent Cuban episode.

Contributions to the Hospital Ship "Maine."—Money continues to pour in in the most gratifying manner for the American Ladies' Hospital Ship the "Maine." One generous friend of the enterprise who refused to allow his name to be made public gave $25 000 in a single donation this week, and has promised another subscription of the same amount if the committee ultimately find it to be necessary. For some reason the Irish Transvaal Committee for the equally creditable purpose of providing an ambulance for the Boer wounded does not seem to be meeting with the same success, as its list of contributions reaches so far the easily invested total of $300.

Professor Virchow's Jubilee.—The fiftieth anniversary of Virchow's labors as Professor Ordinarius in the University of Berlin was celebrated in the hall of the Pathological Museum, which was constructed through his efforts. There was no banquet or similiar social function but the Senate of the University presented to the revered and honored professor an illuminated and illustrated address, the text of which was written by Professor Waldeyer. Virchow's wonderful achievements as scientist, archeologist, and politician were recounted therein in flattering terms. Professor Virchow is now in his seventy-eighth year, and, in spite of fatigues of the celebration, participated during the evening in a learned discussion on organotherapy.

Dr. Kendrick Really Dead—Dr. William H. Kendrick, a personal friend of Abraham Lincoln, was buried in Crown Hill Cemetery near Indianapolis on December 1st, after his family had made a careful examination to prove

that he was dead. Once before his body was prepared for burial but he revived. He was called to Washington in the Civil War at the request of President Lincoln and took a place in the army medical staff. He was stricken with pneumonia while in Washington, and after a brief illness was pronounced dead. The body was shrouded and was about to be shipped to his home when he suddenly returned to life. Dr. Kendrick was an eclectic physician and was formerly connected with the Chicago Eclectic Medical College.

Decrease in the Mortality from Consumption.—In the report for 1898 of the Massachusetts Board of Health a steady and uniform decrease in the mortality from consumption in that State is pointed out. In 1853 the deaths from it were 4272 per million people. In 1895 the number was only 2194, and the report for 1898 shows further decrease. The causes of this remarkable change, states the report, are of a similar character with those which have affected nearly the entire class of infectious or preventable diseases—namely, a better knowledge of the art of prolonging life, a growing appreciation of the value of sanitary measures, and the more rigorous enforcement of those measures which are essential to success in the campaign against infectious diseases. Another means which has recently been adopted in Massachusetts is the establishment of a special State hospital for the isolation and treatment of persons afflicted with tuberculosis.

More Medical Officers in the United States Army. — Surgeon-General Sternberg has prepared a bill for presentation to Congress providing for an increase of men in the Medical Department of the Army. This increase is necessitated by the expansion in the military organization. The bill provides for an addition to the present corps of four assistant surgeon-generals with the rank of colonel; ten deputy surgeon-generals with the rank of lieutenant-colonel; thirty surgeons with the rank of major; and eighty assistant-surgeons with the rank of lieutenant, who will have the rank of captain at the expiration of five-years' service. These positions are to be filled by seniority promotion in accordance with the established laws and regulations. Acting assistant-surgeons to the number authorized are to be appointed subject to the usual examination for a probationary period of six months, during which they will attend the Army Medical School in Washington. At the end of this time if their standing is satisfactory they will be commissioned to fill existing vacancies.

An Energetic University.—Johns Hopkins of Baltimore has demonstrated recently that not only in science but also in the every-day emergencies of life that its professors are ready, even to the exigencies of fighting fire. On the 4th of this month a fire was discovered in the chemical laboratory of the university. The fire was just beneath the private office of Professor Morse on the third floor. It spread quickly and a series of small explosions in different parts of the building made the firemen a little timid about venturing into unknown quarters. Dr. Gilpin, an associate in the chemical department, proved of great assistance to the chief in locating the really dangerous places and reassuring the men about the others. Just as President Gilman arrived upon the scene there were cries of warning as to the danger to be apprehended from the sodium in the laboratory. The disquieting explosive was ultimately removed by the colored janitor, who braved flames and danger and staggered out with the bottles in his arms. When Professor Ira Remsen arrived he was provided with a fireman's outfit—rubber coat, helmet, boots and all—and, with Chief McAfee, made a survey of the building. Dr. Harmon Morse followed Dr. Remsen to the scene, and was likewise fitted out by the chief. Both were of much assistance to the firemen.

Competition for the Senn Medal.—At the meeting of the Surgical Section of the American Medical Association, held June 4, 1897, Dr. Nicholas Senn offered to donate annually a gold medal of the value of $100 for the purpose of stimulating surgical research. The offer was accepted. The committee for this year, consisting of Drs. W. L. Rodman of Philadelphia, A. J. Ochsner of Chicago, and H. Horace Grant of Louisville, desire to direct attention to the following conditions governing the competition: (1) A gold medal of suitable design is to be conferred upon the member of the American Medical Association who shall present the best essay upon some surgical subject. (2) This medal will be known as the Nicholas Senn Prize Medal. (3) The award shall be made under the following conditions: All successful essays become the property of the association. The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction at a general meeting of the association. The competition is to be confined to those who at the time of entering the competition, as well as at the time of conferring the medal shall be members of the American Medical Association. The competition for the medal will be closed three months before the next annual meeting of the American Medical Association, and no essays will be received after March 1, 1900. All communications should be addressed to Dr. W. L. Rodman, Chairman, 1626 Spruce street, Philadelphia.

MEDICAL MATTERS IN NEW YORK.

THE SUICIDE OF DR. LOCKWOOD — THE DEATH OF DR. STEWART B. CARLISLE — REMARKABLE CASE OF BROKEN NECK — STATIC ELECTRICITY AS A REMEDY FOR TUBERCULOSIS—FOUR DEATHS FROM ILLUMINATING GAS—CRITICISMS BY THE CORONER'S OFFICE—ANNIVERSARY OF THE PRESBYTERIAN HOSPITAL — THE NEW YORK EXCHANGE FOR WOMEN'S WORK—AN ODD CAUSE OF DEATH—FOR CHARITY CONSOLIDATION—THE NEW YORK ASSOCIATION FOR IMPROVING THE CONDITION OF THE POOR—THE RECENT BICYCLE RACE.

DR. WILLIAM A. LOCKWOOD committed suicide recently at his lodgings in the borough of Brooklyn by swallowing carbolic acid. Dr. Lockwood was born in Norwalk, Conn., and was a member of the well-known family of that name whose ancestry dates back to the founding of that city. He was at one time a leading

physician of his native town. He served for a time upon the visiting staff at Bellevue Hospital, resigning for the purpose of visiting Paris to study in the hospitals there.

Dr. Stewart B. Carlisle, living at Mt. Vernon, died in the Harlem Hospital December 8th of heart disease. Dr. Carlisle was found upon the street in an unconscious condition by a policeman, and was removed to the hospital. Dr. Carlisle was a graduate of Bellevue Medical School, Class of 1881; he was member of the Westchester County Society, and was attending physician to the Mt. Vernon Hospital.

A man dragged himself into St. Joseph's Hospital, Yonkers, recently, and asked to be admitted. He gave the history that he was sixty-five years of age, and had fallen from a scaffold five weeks before and had broken his neck. Directly after the accident he was taken to his boarding-house where a physician put his neck and head into a plaster cast. He was unconscious for two weeks and on recovering, perceiving that he suffered no pain, he dismissed the doctor. Upon examination it was discovered that the patient's left leg was paralyzed but hypersensitive to touch, while the right side was without feeling but retained the power of locomotion. The X-ray examination disclosed a fracture of the vertebra with displacement, one fragment pressing upon the spinal cord.

The medical staff of St. Luke's Hospital are watching with scientific interest a series of experiments in the application of static electricity in the treatment of phthisis. It has been the plan of the physicians not to allow any knowledge of these experiments to reach the outside world until they were able to report definite results. The experiments are being conducted by Professor Francisque Crotte, and the medical staff are acting as a jury. Careful temperature records are being kept and the sputum of the patients is being examined at stated intervals at the laboratory of the New York Board of Health. The method of applying electricity is by passing sparks through sponges saturated with formic aldehyde which are applied to the patient's chest.

Two more cases of accidental death due to failure to turn off the gas have recently occurred in New York; two people were involved in each instance, making in all four deaths.

Criticism of this city's physicians by medical representatives of the Coroner's office are "rather rife just now." The latest is that of Coroner's Physician O'Hanlon to the effect that the injuries of a patient at the Presbyterian Hospital had been diagnosed simply as fractured collar-bone. Dr. O'Hanlon found on autopsy that in addition to that injury a number of ribs had been broken, and he "expressed great indignation over the failure of the hospital physicians to discover the man's worst injuries." As a matter of fact the physicians at the Presbyterian Hospital had made themselves thoroughly acquainted with all the patient's injuries.

The thirty-fifth anniversary of the founding of the Presbyterian Hospital was celebrated December 9th with exercises in the dispensary of the institution. According to custom on the celebration of anniversaries the entire hospital was thrown open to the inspection of visitors. After a musical programme by the choir of the Central Church, Dr. Donald Sage Mackey made a short address, in which he referred to the part hospitals had taken in the advance of medicine. Fully two hundred visitors inspected the various wards, operating rooms, and laboratories.

The New York Exchange for Women's Work calls attention to its Domestic Department which will furnish all kinds of home-made delicacies for the sick at short notice. The Exchange is a charitable institution designed to help educated women in reduced circumstances, and is supported by voluntary contributions. Orders for invalids sent here are not only well filled, but the physicians who patronize the exchange will be assisting one of our most worthy charities. The Exchange is at 334 Madison avenue, corner of Forty-third street. The telephone number is 1226 Thirty-eighth street.

Mrs. Katherine Keifer died in St. Peter's Hospital in Brooklyn on December 1st after a two-weeks illness, during which her physicians were greatly puzzled. On autopsy a short piece of fine wire was found to have punctured one of her lungs. Just before her illness Mrs. Keifer swallowed a large piece of bread accidentally, and suffered great pain in doing so. The X-rays had been used, but without result.

Leading charity experts of this city are conferring for the purpose of ascertaining whether a large number of charities cannot be consolidated. It has been found that much money has been wasted owing to the duplication of such work. The chief complaints have come from the medical charities, especially the dispensaries, which have been freely criticised of late years as being little better than pauperizers. Theodore Sutro, Esq., President of the Medical and Legal Relief Society, is working for consolidation.

The fifty-sixth annual report of the New York Association for Improving the Condition of the Poor has just been issued. The Department of Relief expended $27,000 in relieving 28,020 people. The necessity of new homes for the aged and of hospitals and homes for consumptives is stated. The fresh air work of the association was exceptionally successful last summer. Fifteen thousand three hundred and seventeen people were taken on the day excursions, of which there were five each week. One thousand four hundred and ninety women, children, and babies were kept at Sea Breeze, the association's summer home on Coney Island, for an average stay of ten days each. One hundred and twenty thousand, three hundred and forty-seven baths were given at No. 9 Center Market Place. The success of these baths demonstrates the possibility of inculcating habits of cleanliness in the most densely populated parts of the city.

Many of the objectionable features that have characterized the previous six-day bicycle races were successfully eliminated from the recent contest at the Madison Square Garden. The improvement was due to the enforcement of the regulation that no contestant was allowed on the track for more than twelve hours out of twenty-four. The result has been a much more satisfactory and exciting

contest than before and popular interest was kept at the highest pitch by the closeness of the score. The sport itself has been in reality benefited by the very humane modification introduced. The management must realize that what makes for humaner methods will always increase popularity in the end. There is one more suggestion that might be adopted with advantage. It is that the untrained, or those in poor condition, should not be allowed to enter such contests. At the beginning of the recent race some unfortunate things occurred seemingly from a neglect of this precaution, and erratic mental symptoms were manifest in more than one of the contestants. The problem of providing properly for such exclusion is perhaps a difficult one, but it is a task well worth the managers' careful attention, not alone from the higher motives of humanity but even from the more sordid reasons of added popularity for the sport and consequently increased monetary returns.

MEDICAL MATTERS IN PHILADELPHIA.

[From Our Special Correspondent.]

THE TROPICAL DISEASES OF THE PHILIPPINE ISLANDS—A $2,000,000 HOME FOR CRIPPLED CHILDREN—THE THOMAS HOGE MEMORIAL WARD OF THE PRESBYTERIAN HOSPITAL—DEATH FROM FREE SAMPLES OF A PATENT MEDICINE—HEALTH REPORT FOR THE CURRENT WEEK.

PHILADELPHIA, December 9, 1899.

AT the last meeting of the College of Physicians of Philadelphia, held December 6th. Dr. Simon Flexner gave an interesting talk on "The Medical Aspect in the Philippine Islands," detailing his impressions gained last summer in the Philippines, whence he was sent, as a representative of the Johns Hopkins Hospital, to investigate certain phases of tropical diseases. Arriving in Manila in May, 1899, Dr. Flexner was enabled, through the permission of the Government and through the courtesies of the army medical officers, to very satisfactorily pursue the study of various tropical affections in patients in the various military and civil hospitals of that city. Leprosy, beri-beri, tuberculosis, and amebic dysentery were found to be the most prevalent diseases Leprosy was studied in the local leper hospital, containing about one hundred beds, and also among the Filipino prisoners at Cavite. The latter were confined in two enormous corridors, which were unlighted and unventilated, and provided adequate accommodations for not more than 100 persons, while, as a matter of fact, no less than 1200 were here confined. Two hundred cases of beri-beri developed within a few days, with a consequent mortality of about 40 per cent., the several types of this disease, the edematous, the atrophic, and the general, being observed. Clinically, no undescribed manifestations were noted; and although particular efforts were made to determine the specific cause of the disease, by approved pathologic methods, nothing definite along this line of research was accomplished, except the proof that beri-beri is not due to infection with any specific form of streptococcus. Cases in which the micro-organisms were found were undoubtedly secondarily affected. Tuberculosis is very common among the natives, and also various cutaneous diseases, scabies in particular; it is known as "washer woman's itch," and is transmitted through the medium of undergarments which have not been boiled in the laundry.

In the study of Americans suffering from various diseases the Spanish hospital, the capacity of which was increased so that 1200 patients could be accommodated, and also three reserve hospitals, chiefly for convalescents, were visited in quest of clinical material. There was found to be far less malarial fever than newspaper accounts would lead one to suppose, although instances of all types of this disease were observed. Enteric fever was also far less extensive than is popularly imagined. Dysentery was by far the most serious disorder which prevailed in the islands, some cases proving fatal in from 24 to 48 hours, while others, chronic and destructive to the patient's health and strength, dragged along a course lasting for many weeks. The complication of hepatic abscess was common. Post-mortem examinations in many cases showed that severe intestinal lesions were commonly caused by the infection, in extreme instances the mucous membranes of the large, and part of the small intestine being apparently almost wholly destroyed, and utterly unlike the bowel structure. The diphtheritic form was not common, but the amebic form was. The ameba coli were found in many cases of dysentery, as well as in individuals who did not have this disease, so that, from this fact, it is evident that the significance of the ameba as the specific cause was partially lost. By means of a careful bacteriologic study of a number of cases, Dr. Flexner believed that he could isolate a single organism, cultivated on blood-serum, as pathogenic for the disease, and to this organism was attributed a more important etiologic significance than the ameba. The organism in question resembled the typhoid bacillus rather than the colon bacillus, but differed from both, the exact points of dissimilarity being at the present time the subject of more extended laboratory investigation. It was further stated that the lesions of the intestine, and the liver complications produced by this organism were identical or very similar to those caused by ameba infection.

At the same meeting Dr. Louis F. Atlee, late surgeon of the "Olympia," gave an interesting account of his experiences with the several diseases most commonly seen in the Philippines. Tuberculosis, leprosy, beri-beri, smallpox, erysipelas, cutaneous disorders, and an anomalous form of the continued fever, came under his observation with particular frequency, and were discussed from various standpoints. The climatic conditions of the islands were thought to be particularly enervating, both to the ill and to the normal individual. The climate was responsible for much of the mental inactivity and incapacity for physical exertion, both of the natives and of the newcomers. Its effect upon European women was regarded as especially deleterious, as shown by disturbances of menstruation, by the frequency of miscarriages, and by the large percentages of births of poorly nourished children among this class of the population.

P. A. B. Widener, the tramway magnate, has signi-

fied his intention of erecting and endowing the hospital and home for crippled children in this city, at an estimated total cost of $2,000,000. The proposed institution, to be known as the Widener Industrial Home for Crippled Children, will have for its objects not only the medical and surgical care of its inmates, but also their training in common-school branches of learning, and in such industrial trades which will enable them to become partially or wholly self-supporting. Ground within the city limits has already been purchased, and the erection of the buildings of the institution will be begun as soon as the existing legal formalities are removed by Councils, making it possible to permanently improve the tract of land chosen by the donor.

The Thomas Hoge Memorial Ward of the Presbyterian Hospital was formally opened on the afternoon of December 9th, the principal speakers on this occasion being the President of the Hospital, the Rev. Dr. Chas. A. Dickey, and Dr. S. Weir Mitchell, to whom the direction of the new ward has been entrusted. This addition to the Presbyterian Hospital's already extensive collection of buildings is expressly intended for the treatment of nervous diseases, especially among that large class of the community, the "half poor," for whom special accommodations are provided, enabling them to receive the rest cure, and other elaborate and ordinarily costly modes of treatment, at an expense to the patients, commensurate with their means. The ward is unendowed so that its future patients are expected to pay a moderate sum for treatment.

The coroner is at present investigating the cause of a death of a twelve-year-old girl, who is reported to have succumbed last week to the effects of having eaten a number of patent pills, samples of which have been recently strewn about the city as an advertisement of the nostrum. If the results of the investigation justify present suspicions, the enterprising manufacturers of these deadly sugar-coated pellets will be prosecuted, and a halt called on this promiscuous distribution of quack medicines, which lately has become so prevalent a nuisance here.

During the week ending December 9th, the number of deaths reported in this city was 412, being an increase of 2 over those of last week, and a decrease of 24 compared to the number reported in the corresponding week of 1898. The following report of contagious disease was made: Diphtheria, 157 new cases, 23 deaths; enteric fever, 43 new cases, 8 deaths; and scarlet fever, 55 new cases, 3 deaths.

Salicylic Acid Administered through the Skin.—If mixed with an oily vehicle it is quickly absorbed. It may be prescribed thus in connection with its internal administration for rheumatism. Oil of wintergreen may be used instead with advantage.

℞	Ac. salicyl.	ʒ iiss
	Spiritus	℥ iss
	Ol. ricini	ʒ iii.

M. Sig. Rub into affected part, covering first with an impervious material then with flannel or cotton wool.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE SURRENDER OF LEICESTER—NO NEWS, GOOD NEWS FROM SOUTH AFRICA—SUCCESS OF CONCERT IN AID OF AMERICAN HOSPITAL SHIP—SMALL-POX SPREADING AT HULL—SULPHUR AND BLUE VITRIOL AS FOOD — COSMETICS — ACROMEGALIC GIANT AT POLYCLINIC—REPORT OF COUNCIL OF ROYAL COLLEGE OF SURGEONS BY ANNUAL MEETING—MEDICAL SUPPLIES FOR TRANSVAAL FROM FRENCH, GERMAN, AND ITALIAN RED-CROSS SOCIETIES — QUACKS BROUGHT TO JUSTICE—MEDICAL MAYORS — HALF AS MANY CHILDREN AS YEARS OF AGE.

LONDON, December 2, 1899.

CIVILIZATION has triumphed in Leicester. As predicted in our last letter, the Board of Guardians, after posing as Ajax defying the thunderbolts, for nearly five months, has surrendered, and by a vote of 29 to 9 rescinded its resolution not to appoint a vaccination officer. It was a remarkable tribute to the power of chivalry even among the Philistines, for as long as the Joan of Arc of the Board stood firm the rebellious majority hung together, but when Miss Ellis weakened the rank and file were only too glad to follow her. The appointment of an officer was then agreed to by a vote of 27 to 19.

The medical news from the front this week seems to have shared in the general slackness and inactivity of all the operations during the lull before the forward movement. The former reports of the extraordinarily low mortality and freedom from complications of the wounds made by the Mauser bullets still continue to be confirmed in a most gratifying manner. One man is actually reported to have been shot completely through the head, the ball entering at one temple and going out at the other, and yet to be convalescing, and the proportion of the wounded who have died within the past four weeks stands at the very low figure of less than four per cent. The troops continue remarkably free from either typhoid or dysentery, and nearly all private correspondents describe the situation practically in the graphic phrase of an officer writing home to his sister, "The climate and surroundings are beastly but healthy."

The concert at Claridge's Hotel this week on behalf of the American Ladies' Hospital-ship was a brilliant success. Half the social lions of the hour, from the Prince of Wales to Miss Edna May, were present, and the net proceeds were something like $8000, which brings the fund to within a few thousand dollars of the amount estimated as required. Much sympathy is of course being expressed with the distressing position of the president of the association, Lady Randolph Churchill, who, just on the eve of her departure for South Africa, which it is an open secret was mainly to bring her nearer to her only son, Mr. Winston Churchill, has received the news that he is wounded and a prisoner in the hands of the Boers.

The smallpox epidemic at Hull still continues slowly but obstinately to persist and spread in a most annoying manner. The new smallpox hospital is being rapidly

filled by fresh cases, one of which has actually developed in a prisoner confined in the jail. This starts a new focus for possible spread of the infection.

The committee of the Local Government Board on the use of preservatives and coloring matters in food, has again commenced its sessions under the presidency of Sir Herbert Maxwell, M.P. Representatives of the trade called before them frankly admitted that various matters were used purely for the preservation or even simply for the beautifying and rendering more attractive to the eye of articles of diet. The use of sulphur in the bleaching of raisins, plums, and apricots, which is so widespread on our own California-fruit farms, was defended on the ground that it greatly improved the appearance and the flavor of the fruit without in any way detracting from its digestibility, although one of the witnesses admitted that sometimes in the case of plums a trace of it was distinguishable to the palate. The same useful bleaching substance is used in the French bottled mushrooms, of which it is actually alleged to improve the taste. More serious was the admission that all green preserved vegetables have their color fixed by sulphate of copper, especially in the case of peas, beans, and spinach, vegetable coloring having been tried and failed, and the dealers frankly declare that the products were unsalable without this fresh green tint. They have actually attempted to introduce the uncolored vegetables at various clubs and restaurants, with the result that although the proprietors and managers are anxious to use them, customers to whom they were served sent them back to the kitchen. This is not a pleasant state of affairs, and it is the duty of the profession to educate the public up to the dangers involved and the foolishness of insisting upon having food material that is pleasant to the eye no matter what the risk. The sulphur-bleached dried fruits, while probably in no way poisonous, are leathery to a most indigestible degree, and while, of course, the amount of sulphate of copper used in the coloring of green vegetables is probably not sufficient to produce toxic effects, yet there is no telling what cumulative results may ultimately develop from prolonged use of such "blue-vitriol" goods.

A most unusual case was presented at the surgical clinic of the Medical Graduates' College this week through the kindness of Dr. Macnamara. This was an Egyptian giant alleged to be seven feet eleven inches in height, and looking every inch of it. Like nearly all these prodigies who exhibit themselves before the public, as he had done with Barnum and Bailey for the past year, he declined to submit to exact measurements, alleging in broken English that he thought it was unlucky, possibly with a fear that, as the Irish superstition has it, he would not grow any more afterward. But by checking off his height against a high door-post and measuring the result, it seemed positive that he was about seven feet two inches. His legs and arms were both enormously long, the crest of the ilium reaching to the shoulder of a man of average height. His cranium was in no way above the average size, while his jaws were large and his hands and feet enormous. Thus there would appear to e at least a suspicion of an acromegalic element in his giantism. His general health, however, was excellent, and he presented no other abnormality whatever with the exception of a large cystic tumor in the front of the neck, which was regarded by his physician as probably a hygroma or congenital cyst. He is only twenty-three years of age, and we wish him a long life and much fame, but it is to be hoped that when he joins the majority an examination of his pituitary body and fossa will be able to be secured.

The formal annual meeting of the Fellows and Members of the Royal College of Surgeons has been held, and, as was expected, proceeded to take some decidedly vigorous action, condemning the Council for its refusal to include in the application for the new charter a clause granting some form of representation at its Board to the members of the College. After a vigorous discussion this resolution of regret and request for amendment was passed by the large majority of 42 to 6. But as the Council is as independent of the annual meeting and its wishes as is the General Medical Council of those of the British Medical Association, we fear there is little likelihood of this reprimand producing any effect. Besides, it must in fairness be admitted that while the demand of the members is an eminently just and moderate one, yet the fact, that out of their thousands only forty-two thought it worth while to attend the meeting, would scarcely seem to indicate that the mass of them are very seriously concerned about their disfranchisement. At least, so we fear, will these figures be regarded and used by the Council.

Another gratifying instance of the way in which nations, however hostile otherwise, can unite in the humanities of medicine is furnished by the recent donation of large quantities of equipment and supplies for the British wounded in the Transvaal, from the French, German, and the Italian Red-Cross Societies. The former has already offered complete equipment for two field hospitals to the English authorities, and this has been gratefully accepted. This is one of the memories of Sedan which brings nothing but pleasantness with it, and it is doubtless connected in some degree with the appointment of Sir William MacCormac, who was the general director of the Red-Cross forces in that campaign.

The law has a curious way in England of insisting upon being obeyed even by quacks. Another case against the vendors of an abortifacient remedy, a faint shadow of the celebrated Chrimes Brothers' affair of a year ago, is now being tried in one of the higher courts. The concern entitles itself "The Herbal Institute," and its methods were the familiar ones, the original departure being that of vending its nostrums from house to house by women agents dressed as hospital nurses, which was a distinctly ingenious ruse. The evidence seems sufficient to render conviction of all five of the defendants highly probable.

The rôle played by the profession in civic and political life in this country is steadily increasing. In the late municipal elections no less than thirteen towns in England and Wales elected medical men as mayors, two or three of the most prominent members of the admirable London

County Council are physicians, and the profession is well represented in the House of Commons.

A suggestive illustration of one of the secrets of the inexhaustible colonizing powers of England is afforded in rather a mournful manner this week by the death of a Welsh collier who could actually count half as many children as he could years of life, twenty-two and forty-four respectively. Larger families than this have, of course, been frequently reported, but we doubt if a similar proportion at an earlier age has as yet been placed on record. The poor fellow was found drowned in a pond, and he was stated to have been much depressed for some time previously, though whether the size of his group of progeny had anything to do with his depression was not stated.

SOCIETY PROCEEDINGS.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Proceedings of the Twelfth Annual Meeting, Held at New Orleans, La., December 5, 6, and 7, 1899.

DECEMBER 5.—FIRST DAY.—MORNING SESSION.

THE Association met at the St. Charles Hotel, and was called to order by the President, DR. JOSEPH TABER JOHNSON of Washington, D. C.

An Address of Welcome was delivered by DR. HENRY DICKSON BRUNS on behalf of the local profession, which was responded to by PRESIDENT JOHNSON.

DR. ERNEST S. LEWIS, Chairman of the Local Committee of Arrangements, made a brief report of the work of the Association.

The first paper read was by DR. A. M. CARTLEDGE of Louisville, Ky., entitled

MYOMATOUS TUMOR OF THE EXTERNAL ILIAC VEIN, WITH REPORT OF A CASE.

Myomatous tumors arising from the muscular coat of veins constitute one of the rarest of pathological curiosities, as a faithful search of the literature by the essayist discovered but two reported cases. A brief account of these was given. His own case occurred in a woman, aged fifty-three years. Five years ago the patient suffered from swelling of the left limb, extending from foot to hip; it came on gradually, and the limb attained a considerable size; the swelling subsided in eight or ten months. She had pain at this time in the left iliac region. No enlargement was noticed. Two years ago the patient noticed a small lump just above Poupart's ligament on the left side, from which she suffered some pain. Within the last year pain has been much greater in the left iliac region, enlargement more distinct and very hard; latterly she lost much flesh; slept poorly on account of pain, and also suffered from accumulations of gas in the bowels. A diagnosis of carcinoma of the deep inguinal glands above Poupart's ligament was made. Exploration of the iliac tumor was advised for a more positive diagnosis, and removal if found expedient. This was accepted, and the operation performed on March 9, 1899.

Operation consisted of an incision beginning near the external abdominal ring, and running one inch above and parallel with Poupart's ligament, five inches in length, which came in contact with the tumor after opening the fascia of the external oblique muscle. The anterior part of the tumor occupied the inguinal canal; the round ligament was easily identified in front of the tumor occupying the most fantastic relation to it, wound as it was in and out around several lobules of the tumor; it was separated easily and pushed to the inner side. By blunt dissection it was gradually freed from its upper and lower and external bed. The outer and deeper attachments were approached with great concern, as they were evidently in the closest relation with the external iliac vessels. Gentle and careful blunt dissection carried the pelvic peritoneum upward, no button-holing of the same occurring. After reaching the base and upper and outer part of the growth the external iliac artery could be plainly felt entering the tumor. Search to the inner and posterior aspect of the artery failed to demonstrate definitely the vein, nothing more than a fibrous thickening could be made out, which was lost in the tumor substance. The tumor was separated from above downward, the deepest projection being disembedded from the obturator foramen; it now remained only attached to the vein and artery beneath Poupart's ligament. These were freed from the surrounding structures by blunt dissection, and were ligated separately and the tumor removed. In cutting the vein below where it entered the growth it was manifest that its lumen was almost obliterated, barely admitting a good-sized needle. The tumor was removed entire, and passing through it and removed with it was one and three-quarter inches of the external iliac artery, and the same length of the nearly obliterated vein. The only hemorrhage of any account was from the obturator vein where it passes through the foramen; this was easily secured by ligation. The upper portion of the incision was closed by tier sutures, the lower portion left open and drained with gauze. Patient is progressing toward recovery.

DR. WILLIAM E. PARKER of New Orleans referred to the difficulty of diagnosticating tumors below the groin.

DR. J. WESLEY BOVEE of Washington, D. C., followed with a paper, entitled

URETERECTOMY.

He said that surgery of the kidney was practically of recent date, and surgery of the ureter was the logical sequence to renal surgery. The paper considered essentially the subject of ureterectomy, an operation less than nine years old, one seldom indicated, but offering brilliant results. Dr. Bovee reported the following case:

Mr. J. J. T., forty-eight years of age, was first seen with Dr. E. Reisinger of Washington in August, 1898. Three years previously his left kidney had been removed for a renal abscess, and subsequently another operation had been done by the same surgeon for the remaining pus tracts and for severe localized pain. He had never been without pain, and was frequently obliged to resort to the use of morphin. The patient was in a very much

enfeebled condition, his pulse ranging from 110 to 130, and his temperature from 99° F. to 101.6° F. On the left anterior and lateral aspects of the abdomen, slightly below the level of the umbilicus, were two scars of the previous operations. A large hernia had occurred. There were three sinus tracts in the left lumbar region discharging thin, watery pus. In spite of the general weakness of the patient an exploratory operation was advised, which was done on August 17, 1898, with the assistance of D. Reisinger. By careful dissection and holding probes in the fistulæ the former location of the kidney was reached. Instead of the kidney a large amount of adipose tissue, containing many pus tracts and calculi and much cicatricial tissue, was found, and a little below it the upper end of the ureter surrounded by calculi and thickened pus. The ureter was about one inch in diameter, and filled with cheesy pus and calculi. Dr. Bovee resolved to remove the duct, and immediately extended the incision to the inguinal canal, keeping about one inch from Poupart's ligament. With considerable difficulty, but with very slight loss of blood, the ureter, in pieces, was removed to the bladder wall. The distended lumen ended abruptly about half an inch from the bladder-wall, this portion being a solid cord. The wound was closed with through and through silkworm-gut sutures, a strip of iodoform gauze being passed to the lowest point of the pelvic wound and brought out at the lower end of the external incision, and another strip in the space formerly occupied by the kidney. The unusual atmospheric high temperature and humidity probably assisted in producing a fatal issue seventeen hours later.

DR. SAMUEL E. MILLIKEN of Dallas, Texas, called attention to a point in technic adopted by Kelly, namely, instead of making one incision he leaves a bridge of abdominal wall, making the first incision from the twelfth rib down to the crest of the ilium in front of the lumbar muscles, with a second incision along the inguinal region. This enables the operator to expose the kidney, to make a thorough examination, and also to trace the ureter.

DR. BOVEE, in reply to Dr. Milliken, said there might be the advantage in two short incisions by having a less amount of tissue to cut across, as muscles, fascia, etc., over one large one, but he thought there was a drawback in having to dissect through a smaller space to loosen the ureter between the two incisions. Such an operation would require more time which, in many instances, is a precious element. However, he was not disposed to criticise Dr. Kelly's method because he had never tried it.

SERIOUS COMPLICATIONS FOLLOWING PASSAGE OF THE URETHRAL SOUND.

DR. WILLIAM E. PARKER of New Orleans read a paper with this title. He reported the case of a man with stricture of the urethra who passed urine with difficulty. The first time a sound was passed he had a chill, with a temperature of 105° F. After a week the sound was passed again, with no fever having occurred between the days of passage of the sound. In the meantime, the man's urine was examined, with a report showing the specific gravity to be 1020, half per cent. of albumin, no casts nor pus, and acid reaction. After the passage of the sound the second time the man had a urethral chill, suppression of urine, and died with uremic convulsions the following day, that is, the second day after the passage of the sound, although the usual precautions had been taken to prevent urethral chill. The autopsy showed that there was intense congestion of both kidneys, with pus in the pelvis, and in the calices of the left kidney.

DR. WM. P. NICHOLSON of Atlanta had seen a number of cases of severe chill following the introduction of sounds where all the necessary precautions had been taken. He had observed six cases of swelled testicle following the introduction of the sound, but had not seen a fatal case. In a book on the "Calamities of Surgery," Sir James Paget mentioned a case where the introduction of the catheter caused suppression of urine and death of the patient. The experience of genito-urinary surgeons would show, no matter how careful they were in sterilizing instruments, etc., in many cases the apparent nervous connection between the organs would produce a severe chill, and, in some cases, suppression of urine.

DR. W. F. PARHAM of New Orleans believed that post-mortem examinations would show, in cases where death had occurred after the passage of the urethral sound or catheter, some form of nephritic trouble, usually the interstitial. He racalled the case of a man upon whom he had operated for strangulated hernia, who had given no history of any renal trouble, yet the patient died of interstitial nephritis, as verified by an autopsy.

DR. MANNING SIMONS of Charleston, S. C., said he had met with a number of cases in which the passage of the sound was followed by trouble. It is his routine practice, when a man presents himself for the first time, in whom he has to pass the sound, to administer a grain of opium, and 10 grains of quinin immediately after its passage as a prophylactic measure against urethral chill and fever. He thought the cases should be divided into three classes. First, those in which the trouble is reflex from the nervous system; second, those in which urethritis is set up by unclean sounds, and, third, those in which there is serious disease of the kidney, but not discovered, preceding the use of sounds.

DR. J. D. BLOOM of New Orleans narrated two fatal cases from the passage of the sound in New Orleans, and these showed kidney lesions post-mortem.

DR. F. W. MCRAE of Atlanta reported a fatal case which occurred in the practice of the elder Westmoreland while the speaker was a medical student. He had seen complications follow the introduction of the sound. During the last five or six years he had not introduced a sound, except in the direst emergency, without having the patient under observation for several days thereafter. His results had been better since paying particular attention to careful preparation of the patient, instruments, repeated examinations of the urine, etc.

GUNSHOT WOUNDS OF THE ABDOMEN.

DR. H. H. GRANT of Louisville, Ky., read this paper. He said that the surgery of gunshot wounds of the abdo-

men, which had been for some years pretty well settled to the satisfaction of the profession, received something of a shock by the report of the surgeons who served in the late war with Spain. (*Journal American Med. Association*, July 11, 1898.) Though these reports, which were made by men of experience and high reputation on the subject, were modified to bear especially on the wounds received in battle, yet the inferences, and indeed the conclusions, affected surgical judgment to a considerable degree. The results of the investigation of Klemm show in an analysis of 152 cases that in nearly all of those in whom penetrating wounds of the abdomen were established, who did not die of immediate effects, eventually succumbed to exhaustion from sepsis, and later from suppuration. The meaning of this was that, practically speaking, all penetrating gunshot wounds of the abdomen, untreated by surgical repair of the lesion, die either of hemorrhage, peritonitis, or sepsis. The mortality after operations done in the first seven hours after injury is fifty-two per cent., as against sixty-four per cent. for operations at all periods. But a study of the tables of Parker shows such variations in the mortality succeeding complicated and uncomplicated wounds of the various viscera, all of a fatal character without operation, as to indicate that in uncomplicated wounds in some situations the early operator will save from seventy-five to eighty per cent. of what would otherwise be fatal cases. His tables also show that of 16 operations done, in which no intraperitoneal injury was found, but 3 died, 1 from an overlooked perforation and 2 from peritonitis, due to infected blood-clot, a fatal complication upon which Klemm lays so much stress.

Dr. Grant sent out a circular-letter to 100 prominent surgeons, and an analysis of the reports developed a number of most important and interesting facts. The mortality in the whole number of operators was about fifty-two per cent., an indication that the prognosis is improving with the more energetic measures of treatment. The practical management of suspected penetrating wounds is as plain a duty as the tying of a bleeding artery. As soon as possible after the injury the patient should be transported to a suitable place, and, under aseptic precautions the experienced hand should carefully trace the course of the bullet into the cavity. This is easy enough when the penetration is direct from the abdominal wall, but often difficult or impossible when from behind or from the thoracic or pelvic cavity. Under these latter circumstances the history of the direction of the projectile, and the general symptoms must be the guide, giving to the side of operation the benefit of thedoubt.

DR. HUGH M. TAYLOR of Richmond, Va., said he had operated on three cases of gunshot wounds of the abdomen within the last two or three years. He laid stress on the utter hopelessness of cases until an operation was done. Of course, he was aware that arguments had been advanced by good men against surgical interference in many cases. It is not always easy to satisfy the attending physician, in the absence of serious symptoms, that an exploratory incision is imperative. Of he three cases narrated by him, one was saved.

DR. WILLIAM E. PARKER was glad to note that the percentage of recoveries from operative interference in gunshot wounds of the abdomen is improving. Cases occurring in civil life should be operated on as soon as possible. In military life he had taken the stand that with the modern small-calibered bullet, as many cases would get well without operation in the field as with it. He mentioned a case operated on by the late Dr. Miles in which there were fourteen intestinal perforations, which were closed, and the patient recovered.

DR. MANNING SIMONS had operated on twenty cases of gunshot wounds of the abdomen by laparotomy, and of this number he saved three. One was a gunshot wound of the stomach, the operating having been done within a few hours after the occurrence. There were two perforations, one of entrance and one of exit, the bullet having lodged in the muscles of the back. This patient, a boy, recovered, and is well to-day. In one of the cases there were fifteen perforations of the bowel. In some he had resected as much as two feet of the small intestine.

DR. SAMUEL E. MILLIKEN had encountered one case of gunshot wound of the abdomen in a child, seven years of age, who had received the contents of a shotgun. He performed a laparotomy, and the child recovered.

DR. J. D. BLOOM said the diagnosis of penetrating wounds of the abdominal viscera was very essential in deciding on an operation. He mentioned the case of a man who was brought into the Charity Hospital, where it was thought that the peritoneal cavity had been penetrated, but laparotomy disclosed that there was no penetration. He recalled a number of cases that recovered when the operation was done within twenty-four to thirty-six hours after being shot.

DR. W. E. B. DAVIS of Birmingham, Ala., said the question to be settled was whether every case of penetrating wound of the abdomen should be operated on. He believes that every such case should be so treated. He condemned the Senn gas test, and said that the teachings of this eminent surgeon in regard to gunshot wounds of the abdomen were harmful in that they had created a sentiment which made it exceedingly difficult in certain communities to operate on cases of penetrating wounds of the abdomen, because if the patient should die the surgeon would be censured, and discredit cast upon surgery.

DR. F. W. MCRAE had seen and operated on five cases of gunshot wounds of the abdomen at the Grady Hospital. The point of entrance of the bullet was above the umbilicus, the injury having been received when the patient was standing, and in every one of them there were numerous perforations of the hollow viscera. In military practice, he said, wounds were received by soldiers who had been fasting for a number of hours, and the intestines were empty; extravasation was not so likely to occur. On the other hand, in civil practice wounds were almost always received under conditions of more or less debauchery, when the stomach was loaded with whisky, beer, food, limburger, etc., consequently extravasation of the contents took place rapidly, and death was much more apt to take place. He considered the Senn gas-test

worse than useless, it being merely corroborative, not conclusive as to penetration of the viscera.

DR. GRANT, in closing, said he had enunciated a few surgical principles, and he hoped the Fellows would conclude that it was the duty of the surgeon to operate as much on a penetrating wound of the abdomen as it was in cases of strangulated hernia.

FIRST DAY—AFTERNOON SESSION.

DR. RUDOLPH MATAS of New Orleans presented a paper in which he gave the history of pulmonary insufflation and artificial respiration in intrathoracic surgery by intubation of the larynx, exhibited an apparatus, and demonstrated its application. In summing up the peculiarities of the apparatus he had shown he called attention to the following points: (1) The original O'Dwyer cannula, while retaining its intralaryngeal portion unchanged, is modified so that it may be utilized, first, as a respirator; second, as a tampon cannula; third as an anesthetizer; fourth, as a tractor and tongue; fifth, as an insufflator; sixth, as an aspirator.

(To be Continued.)

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 2, 1899.

THE President, DR. WILLIAM H. THOMPSON, in the Chair.

The paper of the evening, read by DR. ANDREW H. SMITH, was entitled

THE TREATMENT OF PNEUMONIA AS BASED UPON ITS RECENT PATHOLOGY.

It will be found on page 777 of the present issue of the MEDICAL NEWS.

The discussion of the paper was opened by DR. FRANK W. JACKSON, who said: We are practically agreed that there is no specific for pneumonia. All of the many remedies that have been recommended are about equally good. A reports 106 cases cured by one method. B goes him one better and reports 107 cases treated by a diametrically opposite method with equally good results. It is not the pneumonia that is to be treated; it is the individual in each case to whom it is important to adapt our remedies. I am myself a pupil of Dr. Leaming, and I believed for a long time in the efficacy of very large doses of calomel, 30, 40, even as high as sixty grains. It certainly never seemed to do any injury, and the patient often sank into a quiet slumber shortly after its administration. A temperature of 105° F. would fall to 101° F.; a restless patient would be quieted, but in twelve hours all the symptoms had reasserted themselves, and the calomel often refused to work as favorably the second time. Three years ago I treated an old man who had a severe case of pneumonia with ¼-grain doses of calomel, and they seemed to have as good an effect as the large doses of years ago.

I think it is hopeless to try to abort pneumonia even if we reach the case after it has been in progress for only five or six hours. No method of treatment will accomplish this. At Roosevelt Hospital twenty years ago large doses of quinin internally and an oiled-silk jacket externally constituted routine treatment. If a member of the staff came along and found one of his patients without this combination treatment there was a row. Yet after a good trial of this method in a hospital where patients can be seen often it was given up as ineffectual.

As to creosote, there is not so much to be said in its favor more than for either calomel or quinin. I have never found it to do much good in tuberculosis, and have never noticed any benefit in pneumonia. It is of benefit in bronchitis. It softens the cough, and this is the secret of its influence in tuberculosis. I have had very little experience with the salicylates. When pneumonia comes, however, it does not announce how long it is going to last, and so we can not be sure of the effect of any given remedy. The crisis may occur thirty-six hours after we begin any treatment. It may occur twenty-four hours after acute symptoms have set in without any treatment. I would like very much to have Dr. Smith's faith in the possibility of creosote aborting the disease if taken early enough, but I have not.

In some cases scarcely more treatment is required than for a simple fever, and active treatment would do harm. In some patients there is intense prostration and septic fever from the very beginning. In these stimulants and digitalis for the heart are very good, though this latter drug should not be used unless absolutely required. In other cases restlessness is the main feature. Then opium is advisable, though this is not recommended in the text-books.

DR. ALFRED MEYER said: The principle to treat the patient not the disease in every affection is the only one worth any consideration from a rational physician. This fact to-night's discussion promises to bring out very clearly. The pathology of pneumonia as presented by Dr. Smith is most fascinating. Yet I do not agree with his conclusions in the matter. Dr. Smith insists that if pneumonia were really an inflammation of the lungs, a genuine pneumonitis, it would not get better so rapidly, and it would leave more lasting changes. It must be remembered, however, that inflammations differ very much in different tissues, and that the picture presented in the lungs will be necessarily very different from that which would be observed in a more solid organ. There is no doubt that changes of a substantially inflammatory character occur in the cells lining the alveoli sufficient to stamp the affection as an inflammation. As to the necessity for permanent changes in the tissues after inflammation, it must be remembered that such characteristic inflammations as erysipelas of the face or sun-burn recover without leaving permanent tissue changes. There is no doubt for other reasons that pneumonia is a true inflammation of the lungs. By continuity the pleura and the pericardium may also become infected, and in these structures the pleurisy and pericarditis that are set up are surely of an inflammatory nature.

As to the treatment of inflammation, it is hard to say anything definite. There are cases that run a very brief course, and any remedy that is given will seem to have

aborted the inflammation. In my own experience large doses of salicylates have given me the best satisfaction in the treatment of pneumonia. I consider this drug much better than digitalis, which is so highly recommended by Petrescu. Petrescu shows a good set of statistics treated with digitalis, but all his cases occurred in young soldiers, the picked men of the country, and practically any method of treatment, or even no treatment at all, would have given as good results.

At Mt. Sinai Hospital results have improved very much in the past ten years in the treatment of pneumonia. While in 1887 the death-rate was thirty-seven per cent., in 1897 it was scarcely more than eight per cent.

DR. CHAPIN said: In children the main symptom of pneumonia is the toxemia that so often is developed. In children the right heart is comparatively very strong, and as a consequence one does not often see the symptoms of dyspnea which are so common in adults. This is probably the reason why so few cases of croupous pneumonia are fatal in children, and this seems a rather strong argument against the efficiency of specific bacteriologic treatment. If we can but strengthen the right heart sufficiently to enable it to overcome the obstacle to the circulation in the lungs the patient's safety is assured. I previously used creosote, but have abandoned it. I have found that the presence of steam in the room is of great service. It especially lessens the tendency to the hacking cough which is sometimes so hard to control. I have found plain steam quite as efficient as any medicated vapor. I have often used nitroglycerin, and have been very well satisfied with the results. Dr. Smith's teaching as to the pathology of pneumonia will undoubtedly do good if for no other reason than its suggestiveness. The principle of the germicidal treatment does not work well in practice. All germicides are depressant. For this reason I do not like large doses of salicylates nor of calomel. The fact is that in certain years we see a series of much severer cases of pneumonia than in other years, cases that are of the septic type from the beginning, that are modified by secondary infection, that have an influenza element in them, and these are not relieved by large doses of antiseptics.

DR. EDWARD K. DUNHAM said: I should regret very much to see pneumonia taken from the list of inflammations, for I am accustomed to demonstrate it to my class every year as an example of acute exudative inflammation. There is no essential difference between the inflammatory process of acute lobar pneumonia and that of acute pleurisy, or of lepto-meningitis. Under the microscope one cannot be separated from the other. The same process that occurs in the whole lobe of a lung in pneumonia occurs in small foci of pneumonic tissue after other irritative agents. Good examples of this may be seen around a tubercular nodule in the lung or in the neighborhood of a hemorrhagic infarct. Not only does the exudation show that there is a genuine inflammation, but also the reaction in the cells of the alveolar walls proclaims the same fact. I have here under microscopes four specimens; first, a section of pia mater affected by fibropurulent lepto-meningitis; second, croupous pneumonia; third, the alveolar wall of a lung with an increase of tissue under rejuvenescence of the cells, and, fourth, an alveolar wall from a case of edema, without any inflammatory production of tissue. I think that a glance at these specimens will show how closely pneumonia resembles the processes which all admit to be inflammatory, and how different it is from those in which there is no inflammation. In pneumonia the cells take on certain very characteristic inflammatory changes. The nuclei become enlarged, the chromatin is increased, and the cells generally are in a plastic state. With reference to the clots that are often found in the pneumonic vessels post-mortem, it is more than probable that these have been formed after death. In a case of pneumonia all the elements for fibrin formation are abundantly present, and a stoppage of the circulation would be the signal for the exercise of this property.

DR. WILLIAM H. THOMPSON said: It is very interesting to contrast typhoid fever and pneumonia, the two most fatal diseases of mid-life. In both diseases patients die of toxemia. In both the prognosis of the case depends to a large extent on what the patients take into the disease with them, that is, the condition at the beginning of the illness is the important element in the prognosis. There all similarity stops. Typhoid gets better by lysis; pneumonia by a typical crisis. We have learned so to treat typhoid that the death-rate is comparatively low. Of 344 cases that have been in my care for more than a week at the Roosevelt Hospital only three per cent. died. Pneumonia is very different, and one seems almost perfectly helpless in the presence of certain severe cases. We must look for an antitoxin for the disease. Its self-limitation points to the fact that an antitoxin really exists. Despite failures I believe that it will yet be found. We certainly have as yet no specific remedy.

I believed for a time that I had found a specific for pneumonia in the internal administration of chloroform, and still believe that 30 minims of chloroform administered at the time of the chill will often abort a threatened pneumonia in a few hours. I first tried the remedy on a series of ten cases of the unfavorable kind that come to Bellevue, men whose systems are thoroughly broken down by the use of alcohol and for whom the prognosis as is well-known is unfavorable. Every one of the cases recovered though some of them seemed very unpromising at the beginning. I began to try it then in my private practice. Certain unpleasant symptoms occurred, however, and in two cases unaccountable sudden death occurred and so I have abandoned it. A combination of carbolic acid and chloroform constitutes the best remedy we have. It acts as a true germicide and does not seem to affect the vitality of the tissues at all. Recently in cases of double pneumonia I have had excellent success with 20-grain doses of creosote carbonate, creosotal, administered every two hours. A very palatable emulsion can be made of the drug and patients take it readily. I have recently had three most unpromising double pneumonias recover under this treatment. When there develops in double pneumonia the tracheal râle, which is usually so threatening a symptom and of sinister omen, I

have found that turning the patient over on the abdomen and making pressure on the back relieves the symptoms at once.

DR. CROOK said: Pneumonia has the typical signs of an inflammation. The color, dolor, tumor, mentioned by Galen are all present besides a fibrinous exudation, which combine to show that an inflammatory process has been at work in the tissues. The fact of its complete resolution rather confirms its designation as an inflammation than argues against it, since all mild inflammations, bronchitis, pharyngitis, and the like undergo resolution without leaving structural changes behind. It is probable that in fatal cases not only is the pulmonary circulation affected by the inflammatory process in the pneumonia but that the bronchial circulation is also affected. Something that is not sufficiently borne in mind is that pneumonia like other inflammatory processes is often contagious. This the investigation of the British Medical Association some time ago showed very clearly.

DR. SMITH said in closing the discussion that no one in treating of pneumonia had ever before adverted to the double circulation in the lung. Volumes, even libraries, had been written on the subject without any consideration being given to this important fact which completely changes the conditions from those that exist anywhere else in the body. The pneumococcus produces inflammation of serous membranes, of the meninges of the brain, of the pericardium, of the pleura, but no crisis ever occurs in these cases. Pneumonia ends with a crisis precisely because it is situated as it is in the midst of the double circulation of the lung and practically outside of lung tissue. The germ is killed by the products of its own metabolism, by its own urine as it were. Of these products the principal ones that have been obtained by analysis are pneumic acid and pneumate of soda. These practically produce the crisis. Their accumulation in the exudate makes an acid medium on which the pneumococcus has to grow and the slightest acidity of culture medium, as is well known to bacteriologists immediately causes the death of the pneumococcus. This is the explanation of the crisis. It is not due to the inflammatory process having reached an acme with sudden subsidence, as some have explained. If a process so extensive and serious as is pneumonia were to occur in the delicate tissue of the lung it would surely leave more important permanent changes than are ever found after pneumonia. We would surely find such changes in the liver the kidney or the spleen. The reason why we do not find them in the lung is that pneumonia is not really an inflammation.

REVIEWS.

TEXT-BOOK OF THE EMBRYOLOGY OF THE INVERTEBRATES. BY DR. E. KORSCHELT, Professor of Zoology and Comparative Anatomy in the University of Marburg; and DR. K. HEIDER, Professor of Zoology in the University of Berlin. Translated from the German by Matilda Bernard. Revised and edited by Martin F. Woodward, Demonstrator of Zoology in the Royal College of Science, London. Vols. II. and III. London: Swan, Sonnenschein & Co. New York: The Macmillan Co., 1899.

IN Cassino's "Naturalists' Directory of the United States" the names of at least ten thousand persons interested in natural history subjects are given. Of these between ten and fifteen per cent. are physicians, and it therefore seems distinctly proper to mention in this place a work which is so essentially in the line of the naturalist. Korschelt and Heider's "Invertebrate Embryology" has been known for years among German-reading students of zoology as the standard text-book in this branch of research, and it is fortunate that the first volume, which appeared in translation in 1895, is now further completed by Volumes II. and III., because the many interesting problems of invertebrate embryology are now made accessible for the first time to the English student.

The present volumes are concerned mainly with the consideration of the developmental stages of the Bryozoa, Brachiopoda, Crustacea, Arachnida, Myriopoda, and Insects. For the technical student of embryology there is nothing to take the place of this excellent work and the natural historian of laboratory proclivities will find it a trustworthy guide as well as a stimulus to scientific research. The mechanical execution is of the well-known excellent quality of the publishers, to whom the technical scientific world has been so often particularly indebted.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE NOSE, THROAT, NASO-PHARYNX, AND TRACHEA. For the Use of Students and Practitioners. By CORNELIUS G. COAKLEY, M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1899.

THIS manual of rhinology and laryngology, which is primarily adapted to the needs of the student, impresses one very favorably by the excellent way in which the entire field has been covered, without a single paragraph having been wasted on unessential details or on theoretical considerations. The introductory chapters on anatomy and physiology are brief and to the point; the author's style here, as indeed it is throughout the work, clear, terse, impressive. In the chapters on treatment a departure has been made from the usual presentation of the subject of therapeutics, and a wise discrimination and limitation of procedures to those actually approved by the author's experience is made evident. Where surgical intervention is advised the best operation is accurately but briefly described. A special chapter of practical importance has been added which deals with the different rhinological and laryngological remedies and the manner of their application. The drugs are classified according to their local action, and a number of useful prescriptions with the indication for their employment are given. The work is a convenient and inexpensive students' guide to the entire field of diseases of the nose and throat, which may be recommended as a complete and trustworthy summary of the subject.

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ORIGINAL ARTICLES.

SOME OBSERVATIONS ON MODERN CEREBRAL SURGERY.[1]

BY GEORGE EMERSON BREWER, M.D.,
OF NEW YORK;
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Two factors have recently led to a radical change in views on the subject of opening the cranial cavity for purposes of exploration. The first of these is the success which has attended the general employment of perfected aseptic surgical technic, and the second, the great advances which have been made by neurologists and physiologists in the localization of cerebral functions. As the advances in these two departments occurred simultaneously it is not surprising that they led to an enormons increase in the boldness of surgeons in exploring the cranial cavity, and to an unwarranted amount of sanguine expectation on the part of the neurologists, who looked forward to the possibility of relief in a large number of conditions which had formerly been regarded as hopeless or necessarily fatal. I think I voice the sentiments of most surgeons of experience in this line of work when I say that up to the present time the results of exploratory cerebral surgery have been disappointing.

Since the publication of my last report I have operated three times, once in a case of cortical hemorrhage, once in a case of Jacksonian epilepsy, and once for the removal of the right Gasserian ganglion for persistent trifacial neuralgia. As the operation in the case of Jacksonian epilepsy was a secondary one to that originally reported in my paper as not improved, my experience to date covers twenty operations on eighteen patients. As a report of each individual case of my series would, I fear, prove a tiresome recital and would be practically a repetition of my previous paper I shall speak briefly of the different conditions requiring exploratory operations, reporting only a few cases for illustration.

Cranial traumatism, with or without fracture of the skull, as is well known, results in a number of conditions requiring prompt surgical interference. These conditions are hemorrhage, contusion, and laceration of the meninges or brain, as well as pressure from depressed bone or inflammatory exudates, and the secondary results of such injuries, as abscesses, cysts, areas of chronic meningitis, or cerebral softening. When these lesions occur over the motor area or other equally well-recognized centers, their diagnosis is a comparatively easy matter, but when present in other locations, as in the so-called silent areas of the brain, their diagnosis is often accompanied by great difficulty and embarrassment.

Without entering into a discussion of the surgical treatment of cranial traumatisms in general, the indications of which are doubtless well-known to all of you, I will simply state that when the patient survives the first shock of the injury death is usually the result not of the actual lesion produced, but of an infection which the nature of the injury favors. The logical treatment in these cases, therefore, when the possibility of infection is recognized, is an exploratory operation, and, if necessary, measures to prevent or combat sepsis. As an example of the untoward results which so frequently follow a failure to carry out this plan of treatment early, the following case, the third of my series, will be mentioned. The patient was a middle-aged man who had been injured by a fall causing a wound over the upper left quadrant of the occipital bone. As his injuries did not seem serious he was transferred from one hospital to another without treatment other than the application of a bandage until he finally reached the City Hospital several days after the injury. When first seen his mental condition was so sluggish as to preclude the possibility of eliciting any definite history. There was moderate continued fever, slow pulse and irregular pupils. He was seen in consultation by Dr C. A. Herter, who, although unable to arrive at any definite diagnosis, regarded the condition as one of grave intracranial sepsis, with the possible pressure of a cortical abscess at or near the site of injury. A large bone-flap was raised in the usual manner, including the fractured area and the injured dura. Great intercranial pressure was evidenced by the bulging of the brain through the open dura. A moderate amount of leptomeningitis was present, also a small cortical abscess, which was incised, and about a dram of creamy pus evacuated. Gauze packing, partial suture of the flap, and a layer of sterile gauze completed the dressing. No improvement in the patient's condition occurred. Death followed in two days, and the autopsy revealed a

[1] Read by invitation at the meeting of the Plainfield, N. J., Clinical Society, June 20, 1899.

general septic meningitis and distention of the ventricles with sero-pus.

From the examination at the time of operation and at the autopsy it was clear that this patient had sustained a simple depressed fracture of the skull with a slight wound of the dura, producing practically no cerebral symptoms until infection had spread over a considerable area. Had an exploratory operation been performed at once and the area carefully disinfected and properly drained the patient would undoubtedly have recovered promptly.

As examples of some of the remote effects of neglected cerebral traumatism I will give the history of two rather striking cases:

Case I.—A colored boy, age twenty years, was admitted to the hospital in January, 1899, suffering from rapid pulse, profound stupor, low delirium, and grave sepsis. Upon examination he was found to have the evidences of an active lung-tuberculosis. From his friends it was learned that he had sustained an injury to the skull in the upper middle frontal region some weeks before for which he had been operated upon at the hospital. Since the operation he had gradually become more stupid and irritable. A scar of a transverse incision was found over the center of the skull about one inch back of the margin of the hair. One inch and a half in front of this there was a boggy induration, which upon deep pressure gave the sensation of obscure crepitus. As the lad's condition was extremely critical he was prepared for operation before being seen by me.

Under chloroform anesthesia a longitudinal incision was made in the median line from a point one inch above the root of the nose to the center of the old scar. The periosteum was found to be thickened and edematous, and when incised and retracted the bone appeared spongy. A large trephine was employed over the center of this softened area and a button of bone carefully removed. The opening thus formed led to a cavity about the area of a silver half-dollar between the bone and the dura which was filled with thick curdy pus. The diseased bone forming the roof of this cavity was removed with rongeur forceps, the cavity carefully curetted, injected with a solution of formalin, and packed with wet formalin gauze.

The cerebral symptoms were promptly relieved, his temperature dropped to a degree or two above normal, his appetite returned and he began to improve rapidly. The first dressing was made on the sixth day, when the cavity was found to be perfectly clean. Later the wound was dressed with iodoform gauze and allowed to heal by granulation. His recovery from the operation was prompt, uneventful, and satisfactory. He was later transferred to another ward, where I have since learned he died of his tuberculous infection without any return of the cerebral symptoms.

Case II.—A young man, aged twenty-six years, was admitted to the hospital in January, 1899. December 16th, during a drunken brawl, he was struck on the forehead with an iron bar, after which he walked a short distance, but was finally taken to a hospital, where he remained sixteen days. Nine days after the injury he had a violent fit of muscular tremor lasting several minutes. Later he had five similar attacks, in some of which he lost consciousness. His temperature on admission was nearly normal. Upon examination a depressed and extremely painful scar was seen about two inches above the left orbit.

Under chloroform anesthesia an omega-shaped incision was made over the upper left frontal region extending well into the parietal bone, the base of which was directed forward to received the branches of the supra-orbital and temporal arteries. The bone was exposed and chiseled through in the line of the incision. On raising the bone-flap the inner plate was found to be fractured in such a way that two large, ragged fragments of bone penetrated the dura and were embedded in the first and second left frontal convolutions About one dram of pus was found between the scalp and depressed bone, and a large amount of grumous fluid in the cavity formed by the laceration of the cortex. The cavity was gently cleaned and packed with sterile gauze, the bone entirely removed, the dura united in part, and the wound dressed in the usual manner. No reaction followed the operation, and the patient has since been well.

As an example of an unusual result of cranial traumatism, the following case is reported:

Case III.—A man, fifty years of age, was admitted to the City Hospital in April, 1897, in a condition of marked mental torpor, rendering it impossible to obtain any history other than that he had been injured by a fall from a hay-loft. From the house-staff of Gouverneur Hospital, where he was treated, it was learned that he had fallen a distance of about fifteen feet, striking his head and inflicting a severe scalp wound over the left parietal region. The injury was followed by symptoms of shock which soon passed off, leaving him for a time fairly rational. Later he complained of headache, became feverish and delirious, and was transferred to the City Hospital.

Upon examination a partial paralysis of the right upper extremity, chiefly in the deltoid muscle was demonstrated. He was able to move the forearm and hand slightly. His pupils were equal and reacted slightly to light and accommodation. The pulse and temperature were moderately elevated. There was slight stiffness in the muscles of the neck, but no cranial nerve paralyses and no loss of sphincter control. He was seen in consultation by Dr. Joseph Collins, who was at first unable to arrive at a diagnosis. The symptoms, however, gradually became more marked, the mental stupor deepened; the paralysis became more pronounced and extended to the right leg, and the stiffness of the neck muscles diminished. After several days of careful observation Dr. Collins made the diagnosis of pressure over the left motor area from hemorrhage or a ser-

ous exudate, and advised an exploratory operation. Under ether anesthesia a large omega shaped bone-and-skin flap was raised. When the dura was incised there was a gush of about three ounces of comparatively clear fluid, leaving a large space between the dura and cortex. Upon further examination it was found that the depression in the cortex was limited and was apparently caused by the pressure of the fluid; it appeared as a circumscribed concave depression, the center of which was fully one inch from the overlying dura. The forefinger was introduced between the dura and pia, but no limiting adhesions were detected. The dura was partly sutured, a small gauze drain introduced, the bone-flap replaced, and the wound dressed in the usual manner. No systemic reaction followed the operation, but the patient's symptoms failed to show improvement. His coma deepened and he died five days later. Upon autopsy the wound was found to be free from infection. The brain and meninges presented nothing abnormal other than marked saucer-like depression over the middle and lower Rolandic area.

The propriety of exploratory operations in cases of traumatic and focal epilepsy has been extensively discussed, and a large number of operations have been performed, generally with disappointing results. The consensus of opinion among neurologists and surgeons at present seems to be that such operations are indicated only in recent cases, within one year after the injury, in cases in which general epilepsy has followed, and in cases in which the attacks are of a purely focal or Jacksonian type, especially if an injury has preceded and corresponds to the motor center presiding over the muscles which are the seat of convulsive movements. The reason that the operation does not give permanent relief in cases of long duration is explained by the theory that the epileptic habit has become established, or that cortical degeneration has taken place which relief of the superficial irritation does not remove. In these cases extensive cortical excisions have been suggested but as yet the number of cases in which this has been done has been too small to give any positive results.

I have selected three from my eight cases of epilepsy which may serve to illustrate these statements:

CASE I. *Old Traumatic Epilepsy.*—A man, twenty-six years of age, had sustained an injury five years before resulting in a marked depression of the skull near the upper anterior angle of the left parietal bone. Previous to this he had enjoyed perfect health. Following the injury, however, epileptoid convulsions had occurred and increased in frequency to such an extent as to render him a hopeless invalid. As the convulsions frequently began by violent lateral movements of the head to the right, and as the seat of the injury was over the posterior extremity of the first left frontal convolution, by the advice of Dr. E. D. Fisher, attending neurologist to the hospital, who saw the patient in consultation, an operation was undertaken. A large omega-shaped incision was made over the motor area, extending to the posterior margin of the depression. The bone, still adherent to the soft parts, was chiseled through and broken off in the usual manner. At the point of greatest depression of the inner plate of the skull the dura was found to be firmly adherent and thickened. This was separated and the depressed bone removed by rongeur forceps. The dura was then opened by a semicircular incision and the motor tract exposed. Nothing abnormal was found. The arm and face centers were verified by electrical stimulation applied directly to this region by Dr. Fisher. The dura was united by fine catgut, the bone replaced, and the soft parts sutured A sterilized gauze and cotton dressing was applied. The recovery was uneventful. The wound was dressed on the fourth day, and half the cutaneous sutures removed, and again on the fourteenth day, when the entire wound was found to have united by first intention.

Although the fits ceased entirely for several weeks, they recurred finally, though with less frequency. A recent report from Dr. Spratling of the Craig Colony, where he was afterward sent, states that his condition was practically the same as before operation.

CASE II.—*Recent Traumatic Epilepsy*—A lad, eighteen years of age, was admitted to the hospital suffering from epilepsy of several months' standing, following an injury to the right side of the head which resulted in a well-marked area of depression over the anterior and upper portion of the right parietal bone. The symptom which at first began as an occasional attack of Jacksonian epilepsy of the left arm and hand, had become more frequent, had changed from a mild local to a severe general type, and practically precluded the possibility of any regular employment. As the symptoms were distinctly focal at first, and as the duration was less than one year, the case was regarded as a particularly favorable one for operation. At the urgent request of the lad, therefore, after fully explaining the uncertainties of the result, an osteoplastic resection was made over the right parietal region including the area of depressed bone.

Upon raising the flap a moderate amount of depression was found to exist in the inner plate, causing a slight indentation of the dura. As there was no evidence of dural injury and no sign of an inflammatory deposit the dura was not opened The depressed bone was removed, the flap replaced and united by silkworm-gut sutures, and the head dressed in the usual manner. No reaction followed the operation. The first dressing was made on the fifth day, when the wound was found to be perfectly united. The patient was up and about the ward in three weeks, and after a month was employed as helper in the hospital. At the time of his discharge, about six weeks after the operation, he was apparently well, having had no epileptic symptoms since operation.

CASE III. *Traumatic Epilepsy with Partial Paralysis of Arm and Leg.*—Colored boy, twenty-one years of age, was admitted to the hospital in January, 1899, suffering from frequent epileptic convulsions, beginning invariably in the right hand and arm, extending to the right leg and finally becoming general, with complete loss of consciousness. He was somewhat uncertain as to the duration of these symptoms, but insisted that they followed an injury to the left parietal region from being hit by a stone. During the previous few months he had noticed a progressive weakness in the right arm and leg. He walked with some difficulty and the grip of the right hand was extremely weak. He complained of dimness of vision, but an examination of the eyes by Dr. Straus was negative.

Although I was unable to obtain the advice of a neurologist in this case the symptoms led me to advise an exploratory operation, which was accepted by the patient after a candid statement of the uncertainties of the result. An osteoplastic resection of the skull was made over the left motor area, and the dura freely opened. A large inflammatory exudate was found between the dura and the pia, firmly uniting these two structures and extending for a considerable distance below and on each side beyond the limits of the opening in the skull. Above the upper border of this exudate the brain bulged considerably and was of a dark-bluish color. This region was explored in several directions to a depth of two or three inches with a probe director with a negative result. An attempt to separate the dura from the pia over the area of inflammatory exudate resulted in such free hemorrhage that further effort in this direction was abandoned, it being necessary to ligate one of the pial arteries by passing a ligature on a curved needle through the cortex in order to arrest the hemorrhage. After complete hemostasis had been secured the flap was replaced and sutured, the usual dressings were applied, and the patient placed in bed. No reaction followed the operation, the wound united primarily, and the patient was about in three weeks.

As it was impossible in this instance to remove the lesion but little hope was entertained of any improvement in his condition. Much to our surprise, however, a few weeks later the patient began to show some improvement in walking and in the use of his hand. The epileptic seizures, at first apparently less frequent, soon became more marked both in severity and in frequency, occurring several times during the twenty-four hours. He was seen in consultation by Drs. E. D. Fisher and Joseph Collins, both of whom advised large doses of iodid of potassium on the theory that the inflammatory exudate might be of syphilitic origin, after which if no improvement followed an extensive cortical excision might be tried. The suggestions were carefully carried out for six or eight weeks without any improvement in the epileptic symptoms. In May last he was again anesthetized, a larger bone-flap raised, the dura incised, and the entire cortical region covered by the exudate, about the size of a silver half-dollar, removed to a depth of about five-eighths of an inch. No reaction followed the operation and the wound healed by first intention. There was, however, a marked increase in the paralysis of the leg and arm. The fits continued for a few days with about the same frequency then increased to such an extent that he had forty or fifty a day. About the third week after the operation they suddenly ceased and he has since been entirely free from them. The paralysis is slowly improving and the patient expresses himself as feeling exceedingly well.[1]

I have had but one case of tumor of the brain in which operation has been performed, but as that was an extremely interesting one the history will be briefly referred to. Although this case has already been reported by Dr. Collins and myself in the *Medical Record*, May, 1897, a brief résumé of its main features may not be out of place:

The patient, a man aged twenty six years, was admitted to the hospital in January, 1897, suffering from severe constant occipital headache, persistent vomiting, marked dizziness, and staggering gait with impairment of vision, the duration of symptoms having been about four months. He was immediately seen in consultation by Dr. Joseph Collins, who watched him closely and directed his treatment for six weeks, during which time he became progressively weaker and exhausted from constant pain and inability to retain nourishment. There was at no time any distinct cranial nerve-paralysis, anesthesia, hyperesthesia, or impairment of taste or smell.

The knee-jerks, at first present, gradually diminished and became entirely absent. There was slight ataxia of the upper extremities. The eyes presented the evidences of a double optic neuritis. At the time of operation, February 16th, it was estimated that the loss of weight had been between fifty and sixty pounds. He was practically blind, was wholly unable to sleep, and vomited from ten to twenty times during each twenty-four hours. He was also seen at this time by Drs. Peterson, Bailey, and P. C. Knapp of Boston, all of whom concurred in the diagnosis of cerebellar tumor, probably on the right side near the worm.

On February 16th, under ether anesthesia, a large omega-shaped bone-flap was raised in the right lower occipital region which, when lifted up, broke into the foramen magnum. This exposed the right hemisphere of the cerebellum, which was incised in several places and explored. A small tumor about the size of a hazelnut was found 1¼ inches from the surface near the median line. This was removed in three fragments by means of the finger and a sharp spoon. The lacerated cerebellar tissue was cut away, a drain of sterile gauze introduced, and the wound closed. Twice during the operation it was necessary to infuse a large amount of normal salt solution into the median cephalic vein to prevent col-

[1] During the six months which have now elapsed since the last operation, the patient has had but six convulsions, and is in excellent general health.

lapse. Active stimulation by means of rectal enemas of hot coffee, and strychnin hypodermically was also necessary.

Every untoward symptom ceased after his removal from the table. As soon as the effects of the anesthetic passed off he took and retained food in abundance, his headache disappeared, his eyesight was restored, and he gained rapidly in weight. The wound healed primarily without infection and in a month he was up and about the ward. Two months after the operation he was exhibited at the surgical section of the Academy of Medicine, apparently in perfect health, having gained between forty and fifty pounds in weight. As microscopic examination of the growth showed it to be of a tubercular nature, however, our prognosis was a guarded one.

Shortly after his apparent perfect recovery he became ill, presented evidences of an acute tuberculous process in both lungs, and progressively increasing intracranial pressure. He failed rapidly and died during an attempt to relieve the intracranial pressure by reopening the skull. Autopsy showed an acute miliary tuberculosis of both lungs with local recurrence in the cerebellum.

I desire to refer to one other very interesting condition which may often be relieved by an intracranial operation, and that is *tic-douloureux*, a persistent and progressively increasing trifacial neuralgia. As is well known, the disease frequently resists every method of medical treatment and recurs after division and even excision of the nerve trunks, producing the most intolerable suffering, often resulting in the morphin habit or even suicide. Complete relief in these cases can only be obtained by a removal of the Gasserian ganglion and the intracranial portion of the three nerve trunks by the ingenious operation first suggested to the profession by Hartley.

I have recently operated in a case of this kind, with what at present seems to be a satisfactory result. The patient, a Swede, fifty-six years of age, has complained of pain over the areas supplied by the fifth cranial nerve of the right side for some eight years. At first the attacks of pain occurred at infrequent intervals, and although severe were tolerable. Gradually, however, they became more frequent and severe and so interfered with his work that he became discouraged and, experiencing no relief from the various methods of medicinal treatment, at last became insane and was committed to an asylum. Here, under careful observation and treatment for a number of months he improved somewhat and as his mental symptoms were relieved he was discharged. Shortly afterward the pain became so severe as to be unbearable, and he was admitted to the service of Dr. Joseph Collins at the City Hospital. After careful observation and a thorough test of the strychnin treatment, Dr. Collins made a diagnosis of disease of the ganglion and advised an intracranial operation.

On May 20th, under chloroform anesthesia, an incision was made down to the bone, beginning at the outer angle of the orbit, and extending upward, backward and downward to a point just in front of the tragus of the ear, forming an omega-shaped flap about three inches in diameter. The bone was chiseled through, broken off just above the zygoma, and the flap, composed of skin, temporal muscle and bone turned downward over the cheek. This opened the middle fossa of the skull. The dura was then carefully separated from the base of the skull until the foramen spinosum was reached, and the middle meningeal artery and vein secured and cut off; the dura was then further separated from the bone toward the median line until the foramen rotundum was reached and the second or superior maxillary division of the nerve recognized. The foramen ovale was then found and each division separated from its thin dura sheath, and followed backward to the ganglion, which was then exposed. This dissection required nearly an hour for its accomplishment, owing to the very free hemorrhage which resulted from a slipping of the ligature on the middle meningeal vessels, from the small meningeal artery which could not be secured, owing to its situation at the deepest portion of the wound, and from a large meningeal vein which opened into the cavernous sinus and which was wounded in attempting to remove the dural sheath from one of the divisions of the nerve.

After many experiments in different methods of packing, the second division was raised on a blunt-hook and divided at the entrance of the foramen; the third division had to be divided by the sense of touch as it was found after many attempts to be impossible to keep the blood from the field long enough to permit the procedure to be carried out under the eye. The two free nerve ends were firmly secured in two artery clamps and torn from the first division backward to the ganglion and removed with as much of the ganglion as remained attached to them. The remaining portion of the ganglion was removed by forceps and the sharp spoon. All hemorrhage ceased as soon as the ganglion was removed; the cavity was irrigated with hot salt solution, a small gauze wick introduced, the flap replaced, secured with silkworm-gut sutures, and a sterile gauze dressing applied. As the hemorrhage had been severe the patient was next given 1½ quarts of normal hot salt solution by the median cephalic vein before leaving the table. Practically no reaction followed the operation. His pulse and temperature remained below 100. The wound united by first intention and the patient was up and about the ward

in ten days. The eye was irrigated every day with warm boric acid solution and kept closed under an aseptic gauze dressing for four weeks, after which the patient wore smoked-glass goggles. No inflammatory symptoms appeared in the eye, and the only discomfort complained of by the patient was the numbness of that side of the face and the general physical discomfort following the discontinuance of his morphin. It is now about six weeks since the operation and the man expresses himself as very grateful and entirely free from pain.

Before closing I desire to say a few words in regard to the technic of the operations. When possible the patient's head is shaved two days before the operation, after which the position of the Sylvian and Rolandic fissures are marked out by needle scratches; these, with Reid's base-line give landmarks enabling the operator to locate any of the known cerebral centers, the chief blood-vessels, sinuses, and dural processes. The head is then scrubbed with green soap and hot water for two minutes, and a soap poultice applied for at least four hours. The head is then rescrubbed for ten minutes by the nurse, whose hands have been previously sterilized, a sterilized brush and sterile liquid soap being used after which a wet 1 to 5000 bichlorid-of-mercury dressing is applied. This is removed when the patient is on the operating-table and the wound area rescrubbed for one minute, then douched with alcohol, ether, and sterile water, and surrounded by sterile towels. The operator and all assistants are clothed in sterilized gowns and caps. The assistant administering the anesthetic prepares himself in the same manner as those participating in the operation and during the operation uses a sterile chloroform mask. Sterilized rubber gloves are worn by the operator, his assistants, and the operating-room nurse. When possible the osteoplastic or bone flap operation is performed for the reason that it does not leave a bony defect in the skull.

When the dura is opened the surgeon must remember that he has opened one of the closed serous cavities of the body, and that the danger of infection from any error of technic is as great as in the case of the peritoneum, the pleura, or the synovial sacs, and that an infection here is with great difficulty controlled and leads almost invariably to a fatal result.

If in doubt in regard to the perfection of the technic it is better to drain for twenty-four hours with sterile gauze. Another fact to be remembered is that irrigation of a wound in which the cerebral cortex is exposed with a hot salt solution (115° to 120° F.) has often a marked stimulating effect on the heart.

THE GOVERNMENT SANATORIUM FOR CONSUMPTIVE SOLDIERS OF THE UNITED STATES ARMY.

By EARL S. BULLOCK, M.D.,
ASSISTANT SURGEON U. S. A., STATIONED AT FORT BAYARD, NEW MEXICO.

A SANATORIUM for the treatment of officers and enlisted men of the United States Army, who are suffering from pulmonary tuberculosis, has been recently established by order of the Secretary of War at Fort Bayard, New Mexico. The commanding officer, Major D. M. Appel, Surg. U. S. A., is a man having a special knowledge of tuberculosis, and modern sanatorium methods, and is planning to follow closely the lines of treatment laid down by Dr. E. L. Trudeau at the Saranac Lake Sanatorium.

Although some patients in an advanced stage have been transferred from other military hospitals, so as to avoid the possibility of spreading infection there, yet this sanatorium is designed to meet the needs of those that can be benefited, rather than of hopeless cases. To this end, patients with mixed infection will be carefully separated from pure tuberculous types, and again, convalescents, those free from the bacillus, will be separated from all other patients, and all inmates of the hospital will be obliged to conform to the set of printed rules of which a copy is here given.

INSTRUCTIONS FOR PATIENTS.

Consumption is an infectious disease: it is caused by a germ which is contained in the sputum. For this reason it is necessary that the greatest care be exercised in the disposal of expectoration. Should it be allowed to dry and in the form of dust float around in the air, millions of these germs would be liberated, a grave danger not only to those free from the disease, but also to you, oftentimes undoing in one day the good that has been accomplished by months of care.

Expectorate ONLY in your spitcup, NEVER upon the floor, in the bath-tubs, sinks, or closets, or in your pocket-handkerchiefs. Carry your spitcup with you everywhere, expectorate into it carefully, avoid having to wipe sputum from your lips, whiskers, or from the edges or side of your cup. The only safe method of disposal of sputum is by burning it. Your cups should be burned as soon as half filled and never use one cup for more than twenty-four hours. The metal frames should be washed often with carbolic solution.

Should you, by accident expectorate upon the floor or bedclothes or spill your cup, tell the nurse at once and he will use the necessary disinfectants.

Fresh air and sunlight, rest and good food are necessary. Stay out doors as much as possible, go to bed early, take moderate exercise, eat your meals slowly and masticate your food thoroughly. Do not help yourself to food from dishes with your own fork or spoon; use those provided for that purpose.

Try to refrain from coughing at meal times; with

care you can do much to prevent it. The use of stimulants and of cigarettes is forbidden, smoking and chewing tobacco, in moderation, is permitted when out doors or in the recreation-room.

Whiskers and moustaches, if worn, must be closely trimmed.

PATIENTS NOT BEDRIDDEN WILL OBSERVE THE FOLLOWING RULES:

1. They will occupy their quarters only from 7.30 P.M. until 8 A.M.
2. They must make their own beds and arrange their personal belongings neatly.
3. They must remain outdoors at least eight hours daily.
4. They will not visit in quarters.
5. They will bathe at least once a week.
6. They will not, without special permission, go south of the Administration building.
7. Meals will be served only in the mess-hall.

D. M. APPEL,
Major and Surgeon, U. S. Army,
Commanding Hospital.

Fort Bayard, itself, is a rather old post for New Mexico, dating from 1867, and in view of its abandonment, which has been discussed for some time, it has been permitted to run down, with the exception of absolutely necessary repairs. In consequence but few of the buildings are adapted to the purposes of the sanatorium, and of course, must be replaced by modern structures as soon as possible.

The climate is a subject upon which one might enlarge indefinitely. From the standpoint of physical comfort it is almost ideal and for a sanatorium the climate as well as the location can hardly be excelled.

Fort Bayard lies in a sheltered valley—from it one can plainly see the mountains of old Mexico, more than sixty miles away. They are a never changing hazy blue, only a shade deeper than the sky, which day after day is the same cloudless blue. The perfect clearness of the atmosphere is accompanied by the frequent phenomena of mirage. Down the valley, and a few miles from the post, the plain is apparently dotted with lakes of all shapes and sizes, but the carcasses of cattle dead for lack of water prove that Nature is simply painting pictures on the horizon.

Looking east, and about five miles away, one sees the low, rocky Santa Rita mountains, the cliffs of which were carved and chisled by the hand of man centuries ago. The most prominent landmark of the range is the Kneeling Nun of Santa Rita, a rock visible for miles in nearly all directions, representing the figure of a nun kneeling before a cliff which serves as an altar. Toward the west and about sixteen miles distant are the mountains at the foot of which lies Silver City, while to the north there is still another range. These mountainous surroundings shelter Fort Bayard in part, at least, from the fierce winds which are prevalent during the spring months and constitute the only climatic drawbacks. These winds sweep from ocean to ocean at this latitude, and raise the sand and dust so that sometimes it is not possible to see a building twenty feet away. Such storms are, of course, exceedingly irritating, but fortunately they only prevail for a short time.

At Albuquerque they occasionally use snow shovels to remove the sand and dust from the walks after an unusually severe storm. So it can be readily appreciated why Fort Bayard is proud of its sheltered situation, though even here, to be more honest than is common in the writer of climatic articles, the dust storms are bad enough.

Vegetation is scant, were it otherwise different conditions would prevail and the consumptives would be obliged to seek another Mecca. What little growth there is has a stunted, burned up, very thirsty appearance. There is a characteristic desert flora and fauna, though by all odds geology is the science that most abounds, particularly that branch which deals with volcanic rocks. Fort Bayard is too high, and therefore almost too cold, for the comfort of those destructive reptiles of New Mexico, rattlesnakes, tarantulas, scorpions, centipedes, and Gila monsters. While they are not wholly absent, they are not very abundant. The three elements latitude, altitude, and humidity in combination, make the climate what it is and contributes to the climate a very high sun temperature in summer and a relatively high sun temperature in winter. From this comes the saying that its always warm in the sun.

The altitude, 6040 feet, causes rapid evaporation and at this height constant motion of the air is a feature of the climate. The altitude, consequently, modifies the sun's heat at all seasons, shortens the growing seasons and lengthens the winter. The great dryness of this region, more than all other elements combined, determine the peculiar climatic features. It aids the altitude in still further increasing the rapidity of evaporation, and then to make a very hot day apparently cool. As dry air has a very limited capacity for retaining heat the result is a great and sudden drop of temperature as soon as the sun goes down or upon going from sunshine to shade. The practical application is, of course, that one can always be cool in summer by remaining in the shade, warm in winter by staying in the sun. This explains why one must always sleep under blankets even in August. At Christmas time it is common to see men working out of doors without coats or vests when in the sun, but it is almost

comical to see the rush for outer garments when the sun begins to go down. Again, the evaporation is so very rapid that visible perspiration is uncommon except upon really violent exertion. Even during the rainy season it seldom rains, the total rainfall being less than 15 inches a year.

The dryness is further impressed upon the visitors to southern New Mexico by the the temptation to moisten the lips—which, if persisted in, causes them to become cracked and sore.

From a sanatorium point of view the advantages of the climate are briefly as follows:

Sufficient altitude to act as a general, and, especially, as a blood, tonic, vastly increasing the number of red corpuscles and amount of hemoglobin.

The dryness not only aids altitude in providing a relatively aseptic atmosphere, but it has in itself a distinctly beneficial effect in pulmonary tuberculosis which, though empiric, is none the less well established

The small rainfall and cloudless skies permit daily life in the open air which is *per se* the most important *desideratum* in the management.

Climatologic therapeutics has not yet reached an epoch which makes it possible to successfully select the particular climates, altitudes, etc., that will give the maximum benefit to any patient. Only trial will demonstrate the individual's adaptibility to a climate.

All sorts of patients may do well in all sorts of climates, meaning, of course, slight variations due to differences in altitude and local influences of practically the same general climate (Eastern Colorado, New Mexico, Arizona, and Northwestern Texas). On the other hand all sorts of cases may do badly in all sorts of climates.

The question of suitable altitude is very simple. Patients with advanced disease should begin at a low altitude and ascend gradually, particularly if there is present a hemorrhagic tendency, arteriosclerosis, or heart complications. But as high altitude is a therapuetic agent in pulmonary tuberculosis whether, complicated by sepsis or not, patients should continue to ascend up to 6000 or 7000 feet as long as they feel comfortable; and when there is not sufficient lung surface for adequate aeration of the blood Nature herself will call a halt.

Patients in advanced stages of the disease on first arriving here generally have suffered, in addition to exhaustion, from dyspnea but without exception they soon began to feel better than they did in the East, the only difference being that there they were in the habit of getting about more, while here they were content to sit on the verandas all day, and retire with the sun. The danger supposed to threaten patients advanced in the disease at such a high altitude, was not apparent, neither has it been observed that the effect of tea, coffee, and tobacco was deleterious to those that indulged, in spite of the opinion to the contrary of some who advocate lower altitudes.

In regard to the relative differences between Colorado, Northwestern Texas, New Mexico, and Arizona, where the altitude and latitude are equal, the climate of the last three is practically the same. Colorado is relatively dry, as is well-known, but wet compared with the others. It is also much colder and subject to greater extremes of temperature, Colorado is much the best place for the poor "lunger" because necessities are cheaper and the chances of getting suitable employment are better. The wealthy patient can get what he requires almost anywhere. In Mexico and Arizona an invalid cannot live comfortably for less than $3.00 per day.

Those in a position to form an unbiased opinion agree that portions of New Mexico and Arizona furnish the ideal climatic environment for consumptives. And from this point of view Colorado occupies an entirely secondary position. But, on the other hand, luxuries and comforts, as well as congenial society are found almost everywhere in Colorado. While further south the necessities, to say nothing of the luxuries of invalidism, are beyond the reach of the poor man. Colorado with its wonderful climate is good, but the desert of the Southwest is better from a climatic point of view, and when it becomes the recognized sanatorium of the United States, as it is bound to do in a short time, many of the drawbacks and discomforts will be eliminated.

In a high altitude secretion and excretion are all augmented, metabolism in general becomes a more perfect part of life's mechanism. The dyspeptic, the neurasthenic, the rheumatic, the consumptive, the gouty, are nearly all benefited. Therefore, a high altitude, not 2000 feet—but 5000 to 7000 feet or just as high as a patient can live in comfortably, is to be generally recommended.

A word as to transportation: nearly all the places frequented by invalids in the Southwest are on the great continental trunk lines (Santa Fé and Southern Pacific). The majority are on the Santa Fé where the passenger accommodations are very excellent.

The Harvey Restaurants are the salvation of many a poor lunger in this country. One thing, however, must be remembered: the prices, though reasonable enough considering the distance everything must come, are, in fact, strictly on the Delmonico scale.

All medical men appreciate the importance of a proper mental state on the part of the patient in aid-

ing recovery from any disease, and so it may be said positively that if a consumptive must come West to worry and be homesick he would better remain at home. There is no country on earth, with the possible exception of the North Pole, that can compete with the great Southwest for endemic nostalgia. If worry be added to homesickness the case is hopeless. Therefore, the immigration of the wife and family with the invalid husband and father or the mother with the invalid son or daughters is a potent factor in recovery, for mental peace and hopefulness are fully as important as a suitable climate for the recovery of tuberculosis patients.

EMPYEMA IN INFANTS.

BY DAVID BOVAIRD, JR., M.D.,
OF NEW YORK;
PATHOLOGIST TO THE NEW YORK FOUNDLING HOSPITAL; ASSISTANT TO CHAIR OF PEDIATRICS, UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

EMPYEMA in children is a familiar topic, but if we consult the reports or articles upon this subject we find that few of the cases occur in children less than three years of age, while those belonging to the age of infancy (under two years) are rarer still. It is the desire of the writer to direct attention to the frequency of the occurrence of empyema during the first two years of life, and to certain of the clinical features that belong to the disease during that period.

In the pathological records of the New York Foundling Hospital in the last ten years we find a total of 82 cases of empyema. Of these, 69 were under two years of age, only 13 were beyond that age. These figures may serve to indicate the gravity of this affection during the earlier period. Of these 69 cases, 42 occurred in boys, and 27 in girls. As to the distribution, the right side was involved in 28 patients, the left in 24, both sides in 17. The frequency of this involvement of both sides serves, in part, to account for the high mortality. Furthermore, we find that in one case there was a complicating meningitis, in another an acute peritonitis, while in six cases acute pericarditis had helped to produce a fatal termination. Finally, in forty-one cases there was more or less pneumonia present. The character of the pulmonary involvement varied considerably, some of the cases showed a diffuse pneumonia involving one or more lobes; others only scattered areas of broad pneumonia, while in a third class the consolidation was found only in the superficial portion of the lung which was in contact with the purulent effusion. In the first two classes it is generally agreed that the empyema is secondary to the pulmonary affection, while in the last class it is an open question. Attention would be particularly called to the fact that we have still left a total of twenty eight patients in which there was not any involvement of the lungs found. Objection may be urged that it would not be safe to conclude that because pneumonia was not found at autopsy there had not been any during life. Such objection would certainly hold good for the cases seen in children of greater age or in adults, since in such cases weeks may intervene between the onset of pulmonary symptoms and the discovery of empyema, but in infants the clinical course is so short that doubtless the conditions found at autopsy quite fairly represent the conditions during life. Special attention is directed to this point because it is generally accepted that pneumonia of some form is regularly the precursor of empyema in children.

The records show that in 1 case the empyema was secondary to a general tuberculosis, in 1 to pertussis, in 1 to gangrenous dermatitis, in 2 to enterocolitis, in 2 to diphtheria, in 2 to erysipelas, and in 5 to measles. The data on this point are not complete, and this summary is given for the sake of indicating the variety of the diseases in which empyema may occur as a complication. The absence of scarlet fever from our list is probably accounted for by the rarity of this disease among infants

There is one form of empyema which is, in our experience, peculiar to the early years of life. Sometimes it is designated in the records as pleuropneumonia, sometimes empyema, the designation apparently depending upon the stage of the disease met with at autopsy. In the early cases we find one or more lobes of one or both lungs presenting a fairly typical lobar consolidation, while the pleura overlying the affected lung is thickened, whitish in color, more or less opaque, and coated with a greenish-white or yellow exudate sometimes measuring half an inch in thickness. Usually the parietal pleura is similarly thickened. The pleural cavity may contain only a dram or two of clear serum. Under the microscope the pleural exudate is seen to consist of fibrin and pus. At a later stage the pleural exudate is found in a state of disintegration, and the fluid present in the pleural cavity is thin pus. It is not uncommon to find the pleural contents so thick that they will not flow, but they can be readily scooped out in great masses. It is this type of the affection that is likely to be complicated by pericarditis, meningitis, or peritonitis.

In the majority of cases the purulent effusion is found in the posterior and lower portion of the pleura, but in some of the cases it was noted that the pus was sacculated anteriorly even at the apex of the lung. In whatever situation the pus is found

it is not uncommon for the effusion to be so shut in by adhesions that changes in the position of the body would have little or no influence upon the level of the fluid.

The character of the fluid found varies greatly. Sometimes it is thin and watery; much more often it is thick and creamy. The color is red, reddish-brown, green, greenish-yellow, or yellow. It is, of course, turbid or opaque, and under the microscope shows pus-cells. In none of our cases was it foul-smelling.

The clinical features of empyema in infants are quite as interesting as the pathological findings. In the Foundling Hospital it is generally admitted that there is no disease in which error in diagnosis is so frequently made, the error consisting in failure to suspect and to demonstrate the presence of pus in the pleural cavity. Hardly an interne passes through his year's service without scoring one or more such failures. One frank graduate recently said that just as he was about to leave the hospital at the very conclusion of his service he went to see an autopsy upon a case which he had followed for four days without a doubt that it was pneumonia, only to find a chest full of pus! The explanation of these failures lies partly in the difficulty of diagnosis of any pulmonary condition in an infant. The small size of the chest, the close relation of the lung on one side to the solid liver, on the other to the hollow stomach; the difficulty of securing a quiet examination, the inability to secure the assistance of the patient in the study of the voice and breathing all serve to lesson the information we may gain from physical examination and obscure the interpretation of its results. The frequent presence of pneumonia with empyema likewise adds difficulty to the situation.

But, finally, it seems that the chief cause of our errors is that we come to the study of these cases with the clinical picture of empyema as it occurs in adults so fixed in our minds that we cannot break away from it. We think of empyema as an affection that develops, as a rule, only after a definite pneumonia and in the course of several weeks. We expect to have time to study the case, note the character of the temperature, the occurrence of profuse perspiration, etc., and, if fluid is present, to watch its gradual rise. We have to learn that the clinical course of empyema in infants is short and critical. Our records show that some of the cases die within forty-eight hours after invasion; that the greater number of these sixty-nine cases have proved fatal within a week; that few of them have lived longer than two weeks. We may fairly say that in empyema in infants we have to do with days, where we have weeks or months in the case of adults.

Moreover, the rational signs of empyema in infants are inseparable from those of pneumonia. This holds true whether or not pneumonia precedes or accompanies the development of empyema. We have the same fever, restlessness, rapid pulse, and respiration; the same dilatation of the alæ nasi, cough, and perhaps the expiratory grunt upon which emphasis is often laid in the diagnosis of pneumonia. In short, rational signs are of no help in the matter of differential diagnosis.

Physical signs are of little more assistance. Inspection in an infant will only show an immobility of the affected side common to both pneumonia and empyema. Percussion, if it gives flatness over any part of the lung, should lead us to suspect fluid, but cannot demonstrate its presence. Diminution of the voice and breathing sounds should confirm the suspicion. Bronchial voice and breathing are often heard over pleural effusions in infants, but if so they are usually of a distinct character that is at least suggestive. Palpation may give absence of vocal fremitus, but this is difficult of determination on the small thorax. Displacement of the heart is a reliable sign if it can be demonstrated. It is naturally most likely to be found with left sided effusions, but at the age of which we are speaking it is rarely of decisive help. The physical signs have been gone over in this way only to give point to the repetition of the fact that no one sign or set of signs can be relied upon to settle the question. Marked dulness or flatness over any part of the lung, particularly if it be associated with diminution of the voice and breathing sounds or displacement of the heart, should suggest fluid, and call for the use of the exploring needle.

In view of what has been said on the character of the effusion in these cases, the absurdity of using a hypodermic needle for exploration is apparent. A large needle is a necessity. One approaching the size of the lead in a lead pencil is best. A needle about an inch and a half in length can be handled with much more ease and certainty than the long ones so much in vogue. Such a length is quite sufficient to penetrate the thorax of a child and reach pus if present. The terms fluid and pus have been used interchangeably simply because if fluid is present in these cases it is almost always pus. In the class of cases referred to as sometimes called pleuropneumonia we may draw off a clear serum. A day or two later the same case will show pus. The site of the exploratory puncture is determined by the situation of the dulness or flatness. If necessary, the puncture should be repeated in several places and on

successive days. In the early stages of a thick purulent exudate no aspirating needle would show the character of the effusion.

Once pus is found there is a clear indication for drainage. The removal of the pus by aspiration is sometimes resorted to for temporary relief, but this procedure cannot be relied upon as a method of treatment. Permanent drainage must be established. In infants this is satisfactorily accomplished by making a simple incision in an intercostal space, and inserting two drainage-tubes side by side as large as the space will admit. The site of the incision must be determined by the site of the effusion. Our autopsies show that incisions either located behind and and below the angle of the scapula or in the axilla, either anteriorily or posteriorly, drain the pleural cavity thoroughly. The time for the removal of the tubes must be determined by the subsidence of the discharge. In infants it is possible to remove the tubes much earlier than in adults. The tubes must be secured from slipping into the cavity of the pleura by passing a safety-pin through the outer edge. They should be covered by an abundant dressing of sterile gauze and cotton.

In cases that progress favorably there is usually no difficulty in the expansion of the lung. Apart from drainage the treatment must be simply aimed to support the strength of the child. To summarize the points it is desired to emphasize:

1. Empyema is not uncommon in the first two years of life, and even in the early months. Of the 69 fatal cases on our records 11 occurred in children under six months of age, 40 occurred in children between six months and one year, and 18 occurred in children between one and two years. The youngest patient was two months and nineteen days old.

2. The mortality during this period is very high.

3. Empyema in infants is very frequently mistaken for pneumonia.

4. The rational signs are the same as those of pneumonia in children.

5. The physical signs cannot be relied upon for diagnosis.

6. Exploration is called for in every case in which, with the rational signs of pulmonary disease, we find marked dulness or flatness over any part of the lung, especially if accompanied by diminution or absence of voice and breathing or displacement of the heart.

7. That exploration should be made with a large needle and repeated if necessary. None of our cases has ever shown harm from the use of the needle: many have been missed by reason of failure to use it.

8. Practically all pleural effiusions in infancy are either purulent from the beginning or soon become so.

9. When pus is found drainage is called for. Incision in an intercostal space with the insertion of drainage tubes answers this end thoroughly.

126 WEST FIFTY-EIGHTH STREET.

CLINICAL LECTURE.

SURGICAL CLINIC OF PROFESSOR SENN.[1]

CASE I. *Sarcoma of the Nasopharyngeal Space.*—Mr. W., aged forty-three. No venereal history. Nine months previously he was supposed to have caught a cold in the head. He suffered from difficult breathing due to stenosis of the right nostril. Four months ago he could only breathe through the mouth as there was complete nasal occlusion. At this time a large swelling was noticed in the nasopharyngeal space. There was marked dysphagia. The recumbent position caused a sensation of cerebral congestion. Two months later portions of a tumor were removed through the nose, which greatly aggravated the existing conditions.

Operation.—Preliminary ligation of right common carotid artery was performed because the disease was more extensive on that side. An incision four inches in length along the anterior border of the sternocleidomastoid muscle was made extending through the skin and superficial fascia; then blunt dissection until the sheath was reached, which was opened widely, freely exposing its contents; thus obviating the possibility of including important contiguous structures in the ligature. After introducing double ligatures of catgut, traction was made on the artery by means of the ligatures as a secondary pracaution in liberating the artery. Following this they were tied a quarter of an inch apart. The patient who had been fully anesthetized was now allowed to become semi-conscious. A guy rope of silk was next passed through the tip of the tongue. The soft palate was divided into two lateral halves by means of the broad blade of the Paquelin cautery, thus exposing the tumor mass which was removed piece-meal, largely with the use of blunt instruments. Profuse hemorrhage, which in spite of precautions, caused the patient to become asphyxiated several times, necessitated a delay in the operation until the patient revived. The tumor extended far back to the base of the skull. The soft palate was excised with scissors and the bed of the tumor was thoroughly cauterized. The nasal fossa and the nasopharyngeal spaces were lightly tamponed with iodoform gauze. One week later all the symptoms of difficult breathing, pain, and cerebral congestion had disappeared.

CASE II. *Recurrent Carcinoma of Tongue.*—Mr. S., aged fifty. Prussian, married. The patient had been an inveterate smoker for years. Three years previously a fissure appeared on the upper surface of the tongue near its tip, which, five months ago was subjected to partial excision. Three months later there was a reappearance

[1] Held at Rush Medical College, Chicago, Tuesday November 28, 1899. Reported by Emanuel J. Senn, M.D., Associate in Surgery, Rush Medical College.

of the disease in the old scar with greatly enlarged lymphatics,

Operation.—Partial anesthesia. A semilunar incision on right side of neck with convexity downward extending from the symphysis mentis to the mastoid process was made which was joined by an incision extending downward along the anterior border of the sternocleidomastoid muscle. An enlarged gland behind the sternocleidomastoid muscle and a chain of glands around the great vessels of the neck were removed. Later the mouth was opened according to Kocher's method and by careful dissection one-half of the floor of the mouth was removed *en masse*, with some enlarged submental glands. The tongue, by means of a silk loop passed through the tip was brought through the opening in the floor of the mouth and was amputated at its base. The cut lingual arteries were promptly caught and ligated. The two flaps at the base of the tongue were sutured with catgut, the large wound packed with gauze, and the skin-flap sutured in position; tubular drainage. The stump of the tongue was transfixed with a silk ligature, which was brought through the mouth and fastened to a support which was incorporated in a plaster-of-Paris cap, in order to guard against falling backward of the stump. One week later the patient was in excellent condition; in spite of the absence of the tongue, he was able to articulate, and could talk almost as well as before the operation.

CASE III. *Pyonephrosis and Nephrolithiasis.*—Mrs. S., twenty-seven years of age, married five years. Four years previously, at birth of first child, she was repeatedly catheterized. Pain in bladder and right renal region followed and she experienced a sensation as if an object were in the kidney attempting to escape. Two years ago nephrectomy was performed and a calculus is said to have been removed. The fistula closed seven weeks later but no improvement was noticed after the operation, and the patient had renal colic at repeated intervals.

Operation.—Simon's incision, extending from the twelfth rib to the crest of the ilium was made. The capsule of the kidney was found adherent by reason of the previous operation. The kidney was hard and did not give any sense of fluctuation. Exploratory puncture revealed urine heavily loaded with pus. The needle of the syringe was left *in situ* to use as a guide. Pelvis of kidney was opened by means of Paquelin cautery. Digital exploration of the pelvis and calices. In the deep portion of the wound, the finger came in contact with a soft stone embedded in a calyx near the uretal orifice. This could not be removed entire on account of its location and its fragility. Its removal was with difficulty effected by means of a dull curette. The wound was irrigated and the renal wound enlarged by means of the cautery, nearly dividing the kidney in two halves. This secured requisite drainage and free exposure of all the calices. Drainage was made by means of three large rubber tubes.

CASE IV. *Traumatic Epiphyseolysis of the Femur.*—Annie, aged thirteen. Eleven weeks before, the patient fell from a height, sustaining an injury in the neighborhood of the knee-joint. This had been previously diagnosed as a fracture or dislocation. There was shortening of the leg two and a half inches, with projection of lower fragment in an outward and backward direction. Paralysis of limb below the seat of injury was present and a radiograph showed a large callus in connection with lower fragment. An incision on the outer aspect of the limb in a line with the intermuscular septum revealed an epiphyseolysis of the lower extremity of the femur. Traction was of no avail in the mobilization of the lower fragment and was attended by considerable hemorrhage. A disk of bone was removed by the saw from the upper fragment, after which the two fragments could be brought in coaptation. Suturing of wound, drainage, and large dressing, plaster of Paris, and fenestrated fixation splint completed the operation. Four hours after operation the temperature reached 104° F. This continued with some variation for two days when the dressing was changed and a considerable amount of bloody serum escaped, after which the temperature returned in a few hours to nearly normal.

CASE V. *Backward Dislocation of Elbow-joint.*—Mr. W., young adult. The injury occurred five weeks previously. There was swelling of elbow-joint and the arm was in extension which could not be overcome. Marked prominence of olecranon process was present. The diagnosis of backward dislocation was confirmed by skiagraph. The patient was placed under the influence of ether and a bloodless reduction was made by careful forced flexion of the forearm, extension and counter extension. Traction was made by means of a bandage passed around the elbow with a clove hitch at the wrist. Through slight manipulation reduction was readily made, not, however, without causing a fracture of the tip of the olecranon.

CASE VI. *Tuberculosis of the Metatarsophalangeal Joint of the Little Toe.*—Mrs. V., aged thirty-one. One sister died from phthisis. Six months previously the patient had tuberculous peritonitis which subsided after one tapping and injection of iodoform glycerin emulsion. One year ago a fluctuating abscess appeared on the outer side of the little toe. This was tapped and injected with iodoform emulsion. As a fistulous opening appeared, which persisted to the present time, amputation of the entire toe and metatarsal bone except its proximal head was performed.

CASE VII. *Epithelioma of the Lower Lip.*—Mr. S., aged fifty-one. The disease began as a papule on the lower lip three months previously, situated slightly to the middle line. Later an ulcer about the size of a dime developed. The submental glands were not enlarged. Operation was done without an anesthetic a V-shaped incision being made. Hemorrhage was controlled by digital compression. The apex of the incision was carried down to the lower border of the jaw in order to prevent both the possibility of leaving diseased lymphatics and to secure a more gradual convergence of the margins of the wound whereby a more perfect cosmetic result is secured. The incision in the mucous membrane of the mouth was sutured separately with catgut. The external wound was closed with a few silkworm tension sutures and with horsehair coaptation sutures. The external wound was

sealed with collodion iodoform gauze and was then covered with cotton.

CLINICAL MEMORANDUM.

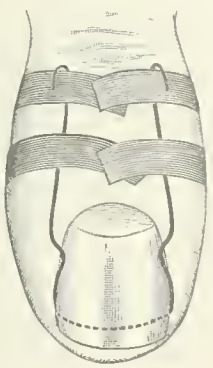
A SIMPLE METHOD FOR THE TREATMENT OF INGROWING NAILS.—A CLINICAL SUGGESTION.

BY GERALD B. WEBB, M.D.,
OF COLORADO SPRINGS, COL.

HAVING tried all methods of treatment, and having been obliged at times to resort to partial excision under cocain, I one day had to treat an obstinate case of ingrowing finger-nails due to improper manicuring. It then struck me that there should be some method of cure, especially for stubborn cases, that would leave no deformity, and I hit on the idea of using silver wire, as represented in the diagram.

For toe-nails I have used it about the thickness of an ordinary pin. The wire should be annealed, and carefully bent to fit the under free surface of the nail, catching and lifting up the lateral edges as far back as the cuticle. Artery forceps will serve as pliers. The ends are carried along the dorsum of the toe and strapped down to the skin with surgical plaster. A pledget of cotton should be twisted around the points which have previously been bent away from the skin. By this means the

FIG. 1.



Illustrating Method of Treatment.

jagged edge of nail is replaced by the smooth, round, non-irritating surface of the wire, and even cases with pus quickly subside. The patient suffers no discomfort if the wire is properly molded, being able to go around as usual with his boot on, and if supplied with adhesive plaster can reapply the wire and cleanse the toe at his pleasure. The only disadvantage is the necessity of wearing the appliance until the toe-nail grows out properly, but this is unquestionably better than the sacrifice of part of the nail and subsequent deformity.

MEDICAL PROGRESS.

On the Etiology and Pathology of the Kedani Disease.—In 1892 Dr. K. Tanaka of Japan made his first observations on a peculiar malady found in that country, and which thus far has not been recognized as occurring anywhere else. In the (*Centralblatt f. Bakteriologie*, 26, p.437, October 28, 1899,) he makes some further contributions to a knowledge of this interesting disease. It is typically one of the group of the exanthemata. The attack usually comes on without premonitory symptoms with a chill and abrupt rise in temperature. The pulse is accelerated and the respiratory activity increased. In a few days the patient is severely ill. Nervous symptoms develop in a short time. On the third to seventh day the eruption occurs. It is urticarious in its general type. Swelling of the lymph-nodes occurs, the face is reddened and turgid, and the conjunctivæ markedly congested. The tongue dries rapidly, and the lungs are the seat of an active bronchitis. The spleen is increased in size. There is gradually developing anorexia and constipation. The kidneys show the lesions of an acute exudative nephritis or acute degeneration. In from ten to thirteen days death usually occurs in from forty to seventy per cent. of those affected.

The author describes a minute moth that is widely spread in the region where this disease is endemic. This moth makes a small punctured wound in the skin when it bites, which is its habit, and it is from this mode of infection that the disease originates. Tanaka believes that he has found a bacillus, a proteus, resembling the Proteus Hauseri, which is the true agent of infection. Careful search was made for some form of plasmodium as the analogy of the method of infection were so marked with that produced by the mosquito, but no such animal blood-parasite was found. A detailed description of the biological characters of the bacteruim is given with illustrations.

Analgesia of the Ulnar Nerve in Epilepsy.—LANNOIS and CARRIER(*Revue de Med.*, November, 1899) contribute a clinical study on a recently observed phenomenon, *i.e.*, analgesia of the ulnar nerve (Biernacki's sign) in the epitrochlear space, between the internal condyle of the humerus and the olecranon. As is known to all, its pressure, a classical method of rousing inebriates, is attended with sharp radiating pains accompanied by tingling of the hands and fingers. Analgesia to pressure on this nerve has been observed as a comparatively common symptom in general paresis, and also rarely in locomotor ataxia, and Biernacki has made an extended series of observations on this phenomenon. In the present inquiry Lannois and Carrier have filled out the series of investigations of Hildenberg, who found that seventy-five per cent. of 79 general paralytics showed this phenomenon. This high percentage, however, they attribute to the fact that there were 13 epileptics included, 12 of whom gave this symptom. In their studies 130 epileptics are reported on including 80 females and 50 males. Of the 80 females 40, fifty per cent., showed normal ulnar-nerve symptoms on both sides. In 11 cases, twenty-three per cent., there was diminished sensibility on both sides. Normal sensibility of one side only was present in 9 cases, while there was complete analgesia on both sides in 14 cases, and complete analgesia on one side in 10 cases. Thus there were fifty-five per cent. normal nerves,

twenty per cent. with diminished sensibility, and twenty four per cent. with complete analgesia. In 50 male epileptics fifty-eight per cent. showed normal sensibility, twenty-eight per cent. diminished sensibility, and fourteen per cent. were analgesic. The combined figures show 56.5 per cent. normal nerves; 23.4 per cent. diminished sensibility, and twenty per cent. showed the positive Biernacki sign. These figures are much lower than the figures of Hildenberg and Foebel, and Lannois and Carrier refuse to acknowledge this symptom as one of the stigmata of epilepsy. As a helpful sign in the diagnosis of hysteria from epilepsy, however, they believe that it may have some value. It is caused, they believe, in the post-epileptic interval by the bruising of the nerve consequent to the attack.

Treatment of Acute Psychoses by Rest in Bed.—SERIEUX and FARNANIER (*Semaine Med.*, October 11, 1899) speak highly of the good which often follows the treatment of acute cerebral disorders by rest in bed. It is usually possible to persuade insane patients that on account of their fever, or as an aid to digestion, or for some other reason, it is desirable that they remain in bed. A nurse is, of course, necessary, and it is of advantage to have the room attractive. The exact physiological action of a horizontal position is not known. Certain it is that it reduces the rate of the pulse and respiration, and by slightly reducing the blood-pressure it lowers the central temperature, diminishes the destruction of the red blood-cells, and increases the weight of the body. There follows as the result of this method of treatment a lessening of the excitement and an improvement of the patient's general condition. The treatment should be supplemented by such therapeutic measures, medicinal or otherwise, as may be indicated, including massage, electricity, hydrotherapy, etc. The mental states most suitable to this form of treatment are acute febrile delirium, alcoholic delirium, morphinomania, mental confusion, delirium, alcoholic delirium of hysteria or epilepsy, and acute mania and melancholia. In chronic mental disorders rest in bed is not advisable.

Diarrhea Occurring in Tuberculosis. — PLICQUE (*La Presse Médicale*, October 7, 1899) says that diarrhea occurring in connection with tuberculosis may be due simply to an excess of fat. This often occurs in patients who suffer from tuberculosis of the joints. It may also be due to treatment by drugs, or it may be the result, most serious of all, of intestinal ulcerations. In the last stages of phthisis such is frequently the case. The diarrhea under these circumstances is usually followed by death. The only justifiable treatment of diarrhea of this type is to relieve the patient with morphin and to prevent severe colic by irrigation of the intestine with injections containing a little laudanum. Diarrhea from other causes has a greater therapeutic interest. A common mistake in treatment is to add too much fat to the diet. Saponification not taking place, unchanged fat passes through the intestines and induces a diarrhea. Under such circumstances the amount of ingested fat, whether cod-liver oil, olive oil, or even butter, should be somewhat limited. Even the yolks of eggs are sometimes injurious to a patient in this condition. Milk can usually be taken without ill effect. In every case the patient should take a long rest after eating, and should drink some hot fluid with meals, such as tea, hot wine, hot milk, etc. Another cause for diarrhea, often seen in young women, is the swallowing of the sputa. The amount of medicine ingested should be reduced to the minimum. Arsenic, the sulphates, and atropin should not be given. The phosphate of chalk and tannin may be taken with advantage. When creosote is not tolerated by the mouth it should be given by the rectum, 30 or 40 minims being mixed with an ounce of almond oil and the yolk of an egg, and shaken into a very fine emulsion with 6 ounces of water. If necessary a little gum arabic may be added to perfect the emulsion. This mixture is best injected after the patient has retired at night. Similar measures should be tried even if tuberculous enteritis is present, but the improvement will be slight under such circumstances. The presence of blood in the stools even in small quantities makes the prognosis very grave.

Appendicitis.—GILBERT BARLING (*Edinburgh Med. Journal*, December, 1899) contributes the results of operation in 117 cases, with some considerations on the questions of diagnosis, of recurrence, and of mortality. Of this number of cases 42 were operated on in a quiet interval. Of these 1 died. The remaining 75 cases he divides into four groups.

1. The "safe" abscess, in which the pus is localized by adhesions from the general peritoneal cavity, and the abscess is adherent to some part of the anterior parietal peritoneum, so that the surgeon opens directly into the pus without risk of infecting the general abdominal cavity.

2. The "non-adherent" abscess, in which the pus is shut off by adhesion from the general cavity, but the abscess is not adherent to the anterior parietal peritoneum, and the operator has to open the general cavity to seek the pus and evacuate it, and so runs the risk of general peritoneal infection.

3. The "subacute" widespread suppurative peritonitis, which approximates the next class, though there is considerable tendency for the inflammation to be limited by adhesion, and the peritoneum above the line of the transverse colon generally escapes.

4. The acute fulminating peritonitis, due to perforation or gangrene of the vermiform appendix, before limiting adhesions of any degree have formed.

The results of operation show that of Group 1, the "safe" abscess, but one case in nineteen operated on died, In none of these cases was the appendix removed. Up to the present time but one recurrence had occurred.

In Group 2, "non-adherent abscess," there were twenty-two cases, all of which recovered. In thirteen the appendix was not removed.

In Group 3 nine cases occurred with three deaths. In only one of these cases was the appendix removed.

In Group 4 there were twenty-six cases, showing fifteen recoveries and eleven deaths.

In addition to the author's statistics the paper contains little that is noteworthy or new.

The Medical News.

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SATURDAY, DECEMBER 23, 1899.

CORONERS' DUTIES—PHYSICIANS' REPUTATIONS.

THE authentic account of a recent flagrant abuse of the authority of the Coroner of New York City is briefly given in our report of the last meeting of the New York County Medical Society. Two physicians were asked by patients of theirs to see a poor sufferer unable to pay for medical attendance. They did so at an interval of two weeks from one another, the second recommending her removal to Bellevue Hospital. The case terminated fatally at the hospital. A coroner's physician decided, on what cannot but seem extremely inadequate grounds, that death had resulted from criminal abortion. Both the medical attendants were arrested and imprisoned. Slight additional investigation showed the utter baselessness of the charge, and the physicians were cleared of all blame in the case.

Of course by this time the harm had been done. For an act of charity physicians had been subjected to the indignity of arrest and imprisonment, to days of worry and injured feeling, and, though completely exonerated by the authorities, their professional reputations were seriously endangered by the unenviable notoriety given to the parties by the press. For it all there is, it seems, absolutely no legal redress. No one is responsible before the law for the mistake. This is, of course, an extremely serious state of affairs. Already there are many physicians who hesitate about the fulfilment of their duty in certain cases because of the liability to involvement in suspicious circumstances. If previous good standing in the profession will not serve to protect physicians from such groundless accusations, then every physician will hesitate to have anything to do with cases that above all others often need prompt and efficient attention. The subject has been placed in the hands of the *comitia minora* of the New York County Medical Society for investigation and for a report as to the advisability of a legislative remedy for present abuses. We sincerely hope that it will receive the most thorough consideration and that some efficient means of relief may be suggested. In Massachusetts they have done away with the office of coroner altogether and do not appear to regret his going. Certainly here in New York his official actions may be so hedged about by safeguards that his powers cannot be used to injure honorable professional men. There is enough crime, flagrant, almost open crime, to occupy the attention of the office in just the lines of this case without the necessity for arrests on slight suspicions. The standing of a medical man in his profession must be the first consideration in such cases. If that is high, then circumstantial evidence, unless of the most conclusive character, must not be permitted to lead to official steps that shall peril his reputation.

THE MEDICAL CORPS OF THE ARMY.

A BILL for the numerical increase of the Army Medical Corps and for the furtherance of its efficiency has recently been prepared by Surgeon-General Sternberg and will be submitted by him to the coming Congress for legislative action. While even in time of peace, with an army of 25,000 men the number of medical officers was repeatedly reported as being insufficient for the needs of the service, the recent increase of the standing forces to 62,000 men, the establishment in the United States of twenty-eight garrisoned sea-coast defences, the forty-two independent commands now serving in Cuba, Porto Rico and Hawaii, together with the

large number of troups in the Philippine Islands, all combine to render the present strength of the Medical Department pitifully inadequate. It will be remembered that last winter, when Congress authorized a large increase in the combatant forces, no provision whatever was made for a proportionate increase of medical officers. As a consequence, further recourse to the wholly unsatisfactory system of employing civilian physicians under contract has been necessary, and at present not one third of the medical men serving under the colors are trained medical officers. The present authorized strength of the Medical Corps is 192 and General Sternberg asks for an increase of 124 medical officers; an addition which must be considered as extremely moderate in view of the fact that the strength of the army—for the health and care of which the Medical Department is responsible—has been increased two and one half times.

The work of the army medical officer is largely specialized and it will not do to entertain the idea that the civilian practitioner, however well qualified he may be in the practice of his profession, is at once competent to perform the multifarious duties connected with the medical service of the military establishment. Surgery is limited in the army, the practice of medicine is circumscribed within narrow limits and the army surgeon is, under regulations, primarily a sanitary officer. Hygiene, however, is a branch of medical science which, being unremunerative furnishes no financial stimulus for its study and hence is largely ignored in both the collegiate curriculum and the practice in civil life. Hence it is that there are but few men in civil life who are, though previous training, fitted to solve the sanitary problems daily presented to the medical officer.

The profession at large, from whose ranks the personal of the Army Medical Corps is selected, must stand as sponsor for its representation in the military service and ensure that reasonable measures for the promotion of efficiency in the latter are not ignored. We, therefore, commend General Sternberg's bill, to the favorable consideration of the medical men of the United States and urge that such active measures be promptly taken, both individually and collectively, as will bring about much-needed congressional legislation during the coming winter.

ECHOES AND NEWS.

Dr. E. Eliot, Jr., has been appointed attending-surgeon at Presbyterian Hospital in place of Dr. C. K. Briddon, resigned.

New Yellow-Fever Serum.—The Sanitary Institute in Montevideo, Uruguay, it is declared, is preparing a new yellow-fever serum which is considered superior to Professor Sanarelli's.

Tenement-house Committee of the Charity Organization Society has offered four prizes to architects for plans for improved city tenements. The plans submitted are to be exhibited in connection with the tenement-house exhibition to be held this winter in New York and other cities.

Deaf and Dumb School Burned.—The Western Pennsylvania Institute for the Deaf and Dumb, situated at Edgewood, was destroyed by fire on December 14th. It is believed that the pupils, 500 in number, were all saved. The loss is placed at $150,000, with insurance of $100,000.

Japan Stamps Out the Plague.—The Japanese authorities are entitled to much praise for their speed and skill in stamping out the bubonic plague. The disease was not allowed to spread beyond the seven patients originally attacked. All of these died, but they were so well isolated that no new cases were reported.

Dr. Frederick L. Johnson, thirty-one years old, died at his home at Maspeth, Queens borough, on December 11th. He had overworked himself for some time and had developed insomnia. It is believed that he took by mistake an overdose of chloral. His condition was not discovered during the night and he was found dead on the morning after taking the dose.

Dr. Northrup Lectures at Yale.—By invitation of the Yale Medical Alumni Association Dr. W. P. Northrup, professor of Pediatrics in the University and Bellevue Hospital Medical College, delivered an address to them December 13th on "Some Paths of Tuberculous Infection." President Hadley presided at the meeting. Later a reception was given at the house of Dr. Leonard Bacon.

Medical Men in Municipal Life.—The *British Medical Journal* in its recent issue calls attention to the fact that among the new mayors recently elected throughout Great Britain the medical profession is well represented. There were thirteen doctors elected to the office of mayor. It is a sign of the times, says the *Journal*, alike beneficial to the civic life of the nation and honorable to an honorable profession.

International Congress on Tuberculosis.—The British National Association for the prevention of consumption and other forms of tuberculosis is taking steps to organize an international congress to be held in London in the

spring of 1901. Invitations will soon be issued to 600 representative persons and institutions in the United Kingdom to attend a preliminary meeting for the purpose of making arrangements.

Hydrophobia in Washington.—The Department of Agriculture issued on December 12th an order prohibiting the immigration or emigration of dogs to or from the District of Columbia. Dogs with muzzles may, however, be immigrated. The reason for the prohibition is that a hydrophobic scare prevails in the neighboring sections of Maryland and Virginia. The District Commissioners are not pleased with the department's action.

Harlem Hospital. — Dr. Dudley, of the staff, appeared before the Harlem Board of Commerce at 50 West 125th street on the evening of December 11th. He denounced the condition prevailing in the present institution. The hospital is as crowded as a tenement and, under the the circumstances, most unfortunate results follow. Patients have to sleep on the canvas stretchers on the floor. There are no lying-in accommodations and at times the wards are "veritable horrors."

German Sanitary Conditions.—Dr. Leidy of Philadelphia is now in Berlin, where under the direction of Professor Virchow he is investigating diseases caused by animal parasites in food. He finds that such diseases are far more common in Germany than in the United States, their greater prevalence in the former country being due to the popular habit of eating uncooked meats. Dr. Leidy finds typhoid almost unknown in Berlin, probably because of the perfect filtration of the city's water.

The State Board of Charities has disapproved of the incorporation of the Emanu-El Hospital and Dispensary of New York City. Many protests were raised, notably by Dr. J. H. Byrne, the chairman, and Dr. F. R. Sturgis, the secretary of the Committee on Charities and Legislation of the New York Medical League. The principal ground of protest was that the Jewish community on the East Side does not need such an institution. This is one of the early fruits of the new dispensary law.

Red-Cross Help for Boers.—The Boers urgently need succor for the wounded and sick both of their own soldiers and of their British prisoners, America has been appealed to for help, and the American committee to aid Red-Cross work in South Africa has been formed. It in turn has appointed subcommittees in many parts of the country. Money is mostly needed, and those who would contribute must do so quickly. The committee meets at the office of Mr. Bergen, 55 Liberty street, and contributions are received there by Mr. Bergen as treasurer.

Craig Epileptic Colony.—The annual report of the Board of Managers of the Craig Colony, of which Dr. Frederick Peterson is the president, states that since its opening on February 1, 1896, 504 epileptics have been received, of whom 378 remain. When the new buildings now in course of construction are completed the capacity of the colony will be increased to a total of 720 beds. During the past year 95 new cases were admitted. Of these 40 were men and 55 were women; 35 were discharged. The death-rate in the colony during the past year has been but two per centum.

Health Outposts for Europe.—Drs. E. K. Sprague, G. M. Magruder, G. M. Corput, S. B. Gibbs, and W. C. Hobdy of the United States Marine Hospital Service, who sailed on the "St. Louis" on December 14th, will be stationed at European ports to see that all vessels with immigrants bound for the United States have a clean bill of health. Ten other physicians will follow them. Any immigrant-carrier failing to provide a bill of health signed by an American physician at the port of sailing will not be permitted to enter any American port. The doctors will be stationed at the American consulates of European ports.

Diphtheria Epidemics.—The prevalence of diphtheria in Irvington, N. Y., caused the closing of the public school from December 13th to January 2d. Fifteen cases and several deaths have been reported. In Paterson, N. J., there were reported from December 1st to the 12th inst. fifty-nine cases. It is feared the record will be 150 cases for the month. It is believed the condition of the public schools is primarily responsible for the spread of the disease. It is intended to follow the New York City plan of having physicians make daily school inspections. The epidemic is causing great uneasiness, and strict measures are being taken to prevent its further spread.

A $10,000 Suit Settled for $900.—In March last Dr. B. L. Robinson of McLean, N. Y., brought a suit for $10,000 for medical service against G. E. Chalmers of Cortland. The latter is a reputed millionaire. The case was settled on December 15th. In September of 1898 Mr. Chalmers "began to commit suicide" by hacking at his throat with a razor. When he had seriously wounded himself he repented and called for a physician. Dr. Robinson responded, and performed some really difficult surgical work. His patient recovered. The doctor based his charge for $10,000 on the ground that the life of the irresolute suicide was worth that amount. The attorneys for Mr. Chalmers declared that on this accounting the visits made by the doctor would average $1000 for each. The case was settled for $900.

An International Congress on Hypnotism.—A second international congress on hypnotism will be held in Paris from August 12 to 16, 1900, under the presidency of Dr. Jules Voisin. The following questions will be discussed: The formation of a vocabulary concerning the terminology of hypnotism and the phenomena connected therewith; the relations of hypnotism with hysteria; the application of hypnotism to general therapeutics; the indications for hypnotism and suggestion in the treatment of mental diseases and alcoholism; the application of hypnotism to general pedagogy and mental orthopedics; the value of hypnotism as a means of psychological investigation; hypnotism in relation to the (French) law of November 30, 1892, as to the practice of medicine;

suggestion and hypnotism in relation to jurisprudence, and, finally, special responsibilities arising from the practice of experimental hypnotism.

Dr. Harvey Reed Retires from the Wyoming General Hospital.—Dr. Harvey Reed, formerly of Columbus, Ohio, but recently of Rock Springs, Wyo., has resigned the position of medical director of the Wyoming General Hospital, to take effect December 31, 1899. The Wyoming General Hospital is a State institution, and under the control of a political board. When Dr. Reed accepted this position the institution had been in operation for three years, during which time there had been treated 272 patients. During the first year of his service he admitted and treated 313 patients in addition to eight holdovers from the former administration. During the second, which ended September 30th, 1899, he admitted and treated 378 patients, including 28 holdovers from the previous year. In addition to Dr. Reed's resignation, the chief nurse and chief house surgeon also tendered their resignation, and we understand on good authority that several other nurses will resign.

The Coffee Question at New York Quarantine.—The New York Board of Health has finally decided to admit to the docks the coffee ships that have arrived at Quarantine upon which no case of plague has developed. The coffee of "J. W. Taylor," the plague-infected ship, is still held upon the lighters, and cannot be landed until it has been roasted. The plan of the consignees of the ships that were being held at quarantine, to send them to Boston and ignore the action of the New York Board of Health was frustrated by an order from the Secretary of the Treasury, announcing that the ships would not be permitted to go to Boston as that would be participating in coastwise trade. To obviate the dangers of a similar predicament in case of the fleet of coffee ships now en route from Santos, the consignees have arranged to signal the ships outside of New York harbor until they can learn the sanitary condition of them and the likelihood of their passing the New York Quarantine and the Board of Health. If the prospect is not encouraging, the ships will probably be directed to go to Boston. What an absurd state of affairs! This would all be obviated by a national uniform quarantine.

MEDICAL MATTERS IN PHILADELPHIA.

[From Our Special Correspondent.]

SYPHILIS OF THE LIVER—A CASE OF ANTHRAX—DR. DEAVER ON RESECTION OF THE BOWEL—DR. STENGEL ON ANEMIA—GENERAL DISINFECTION OF THE PUBLIC SCHOOLS — HEALTH REPORT FOR THE CURRENT WEEK.

PHILADELPHIA, December 16, 1899.

TWO cases of syphilis of the liver were reported by Drs. J. A Scott and L. N. Boston at the last meeting of the Pathological Society, held December 14th. The first case, that reported by Dr. Scott, occurred in a man of sixty-nine years of age, in whom the initial lesion had developed forty years previously, and had healed without the subsequent appearance of secondary symptoms. Two years ago he first noticed a general enlargement of the abdomen, and in the early part of the present year edema of the feet and ankles became apparent. On his admission to the hospital, in March, 1899, his abdomen was much distended and filled with fluid; neither the liver nor the spleen were palpable. He was tapped six or eight times in all, and a total quantity of twenty-nine gallons of fluid was removed from the abdominal cavity by these operations. The patient finally died from an acute intercurrent infection with erysipelas. At the autopsy it was found that the liver weighed 2200 grams (4.3 lb.), and the spleen 1200 grams (2.3 lb.), both being firmly bound down to the adjacent tissues and organs by dense adhesions, the right lobe of the liver being quite divided into two separate parts by a large, deep scar. The pancreas was dislocated, the head of this organ being found to occupy a vertical position. A chronic fibrinous general peritonitis also existed. Referring to the general symptomatology of syphilis of the liver, Dr. Scott remarked that the common clinical manifestations were usually those of cirrhosis; in differentiating it from other forms of cirrhosis, absence of such symptoms as diarrhea and antecedent digestive disturbances were in favor of syphilis, the presence of a history of primary infection being, of course, most suggestive. Dr. Boston's patient, a woman thirty-two years of age, had noticed for the past six months a progressive enlargement of the abdomen, which she falsely attributed to an existing pregnancy; there had also been occasional attacks of vomiting, some bloody expectoration, and slight hemorrhages of the bowel, due, perhaps, to the prefence of hemorrhoids, from which the woman also suffered. After the aspiration of 176 ounces of fluid from the abdominal cavity, a period of improvement in the patient's general condition followed, but dyspnea and other symptoms again became distressing with the reaccumulation of the ascites, and at a second tapping 144 ounces of clear fluid were removed. The second operation was followed by a good deal of shock and some heart failure, from which the patient rallied but slightly, dying two days later. Autopsy showed that the liver was of a yellowish-gray color, stippled with fine yellowish areas encircled by fibrous bands producing at these points a somewhat depressed area; the organ was distinctly lobulated. Microscopical examination showed that, as a rule, the liver cells were well formed, and that areas of dense fibrous tissue dipped down from the capsule of the organ and extended well into the liver substance. The spleen was slightly enlarged and the peritoneum dormal.

At the same meeting Drs. J. H. Jopson and A. A. Ghriskey reported a case of anthrax occurring in a man of forty-eight years, a worker among raw, green hides in a morocco factory. Following infection through a slight scratch on the forearm, the patient noticed that the infected arm became much swollen, and that a peculiar spot appeared at the site of the scratch—a spot about 1 cm. in diameter, having a minute dark-colored center, and surrounded by sort of a halo of small, pearl-colored vesicles,

eight in number. After incision of the infected member by means of which a small amount of gelatinous matter, but no pus was removed, the patient seemed to improve somewhat, but four days later his temperature became subnormal, and after repeated abortive attempts to bring about reaction, he died. No post-mortem examination was made, but a bacteriological study of the local lesions made during life, gave interesting results. From material obtained from the central bleb-like area three microorganisms were found, a staphylococcus, a streptococcus, and a bacillus. A mouse inoculated with cultures of the bacillus died after a short period, and this fact, together with the cultured peculiarities of the organism, identified it as the bacillus of anthrax. The staphylococcus was regarded as the staphylococcus epidermitis albus, and the streptococcus was unidentified.

At the last meeting of the Academy of Surgery, held December 4th, Dr. John B. Deaver exhibited two patients upon whom he had done the Kraske operation. One was a young man of twenty-five, who had an intestinal growth which microscopical examination proved to be adenocarcinoma, in spite of his youth. Examination of the blood showed 69 per cent. of hemoglobin, 3,400,000 red cells, and 16,000 leucocytes per c.mm. A resection of 3.5 inches of the rectum was made, the external sphincter being also removed. In the second case 4 inches of the rectum was removed. In this case and also in another upon which he had operated control of the sphincter was not lost. Dr. Deaver stated that for some years he had not done an inguinal colostomy, being strongly in favor of the Kraske operation as performed without this preliminary. The function of the sphincter can be retained wherever this structure is not actually involved by the morbid process, and although a temporary fecal fistula has resulted in all his cases, all have finally closed without serious trouble. The speaker did not agree with Senn that these cases can be operated upon without involving the sacrum, believing that the parietal peritoneum cannot be handled so well by this method. The chisel or osteotome is employed, and the sacrum thus divided low down as a preliminary, and then as high up as necessary. In one case the cauda equina was exposed, but no bad symptoms followed this incident. Suturing the anterior part of the bowel is a difficult procedure, but this is rendered easier by saving as much tissue and levator ani as possible. By placing the patient on either side, the legs being strongly flexed, the whole rectum can be resected, and the sigmoid brought down, still retaining intact the sphincter. The wound is packed with iodoform gauze, and allowed to heal by granulation. This method of operation argues in favor of an earlier operation than is usually done in such cases. In conclusion, Dr. Deaver remarked that in his experience artificial ani in the groin or in the lumbar region had not proved satisfactory, and that he would make such an opening only in advanced cases, in order to make death easier, or to make the patient more comfortable for a time. Every case should be explored thoroughly to determine whether the other operation is possible, before colostomy is done.

At the last meeting of the Section on General Medicine of the College of Physicians of Philadelphia, held December 11th, Dr. Alfred Stengel reported a case of splenic anemia occurring in a child of three years. The blood findings were as follows: Hemoglobin, 30 per cent.; red cells, 2,920,000 c.mm.; leucocytes, 9600 per c.mm. Differential count of the latter showed 31 per cent. lymphocytes, monuclear forms 50 per cent., polymorphonuclear neutrophiles 17 per cent., 1.6 per cent. eosinophiles, and 0.4 myelocytes. Erythroblasts were also found. These blood changes followed an acute attack of gastro-enteritis, subsequent to which anemic pallor, seizures of vomiting, and enlargement of its abdomen were noted. The lymphatics, spleen, and liver were enlarged. The case in question was regarded as an instance of marked secondary anemia with enlargement of the spleen, there being, in the reported opinion, no proof of the existence of a true primary splenic anemia.

A general disinfection of all the public schools is to be made, owing to the great prevalence of diphtheria and of other contagious disease among the pupils of the various schools, a condition which has already necessitated the closing of several schools in different parts of the city. The buildings are to be disinfected during Christmas week, so that it is hoped by the new year that every school will be able to present a clean bill of health.

The number of deaths in this city during the week ending December 16th was 445, an increase of 33 over the number reported last week, and a decrease of 36 from the number reported during the corresponding week last year. Returns of contagious diseases were as follows: Diphtheria, 154 new cases, 26 deaths; enteric fever, 32 cases, 3 deaths; scarlet fever, 65 cases, 2 deaths.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

FIVE CASES OF DIAPHRAGMATIC HERNIA — A NEW PATHOGENIC FUNGUS—RELATION OF MENTAL DISEASE TO LIFE EXPECTANCY—RELATION BETWEEN RECTAL DISEASES AND LIFE EXPECTANCY—EXAMINATION OF WOMEN FOR LIFE INSURANCE—RELATION OF CHRONIC EAR DISEASES TO LIFE INSURANCE.

CHICAGO, December 16, 1899.

AT a meeting of the Chicago Pathological Society, held December 11th, Dr. Charles A. Parker reported five cases of diaphragmatic hernia, three of which were traumatic. The specimens and data of three of these cases were furnished by Dr. L. Hektoen; the other two were observed by the author in the dissecting-room of the same institution. All were found post-mortem. There was no history of ante-mortem symptoms obtained in any of the cases, and in none was there any evidence that the condition had shortened the owner's life. All were adults, one woman and four men. Four were on the left side and one on the right. In no case was there a complete sac, and in but one was there even an attempt at its formation. In the three traumatic cases scars were found in the integument of the lower left chest wall and extending into the deeper tissues, in one making the

union of the cut ends of the seventh and eighth costal cartilages of that side and terminating at a circular opening 1.5 cm. in diameter in the sixth intercostal space in the mammary line; in another leaving an opening in the eighth interspace in which was an adherent fringe of great omentum of the hernia; and in the other there was no noticeable change in the intercostal tissues. The diaphragm was penetrated in its muscular position in all three of these cases, and in nearly the same place, anterior, and to the left. The opening in one was 2 mm. in diameter, in another 5 mm., and in the third 2.5 cm. by 4 cm.

The contents of two of the traumatic cases were simply omentum, but in the third and larger one were the transvere colon, twenty inches long, with its mesentery and vessels, and part of the great omentum, occupying a considerable portion of the left pleural cavity to the left of the pericardium. In this case an incomplete sac formed mostly of great omentum extended through the intercostal opening, and some distance down on the external surface of the chest wall beneath the skin forming an intercostal hernia. Its inner surfaces were not adherent at the opening, and it is possible and quite probable that at times of increased abdominal and thoracic pressure portions of the large intestine were forced into it, forming part of the contents of this most unusual (intercostal) variety of hernia.

Of the two cases considered congenital from lack of evidence of traumatic origin, one was a female and one a male. In the former there existed an opening in the left anterior region of the diaphragm two inches in diameter, transmitting into the left pleural cavity a hernia that consisted of the stomach and first portion of the duodenum, the entire transvere colon and great omentum. As there were very few adhesions to the surrounding structures, there were quite freely movable, so the contents of the hernia probably varied from time to time.

In the male subject an opening 3¾ by 4½ inches occupied a considerable portion of the right half of the diaphragm, and through it extended the larger part of the liver, including most of the right and left lobes, with the gall-bladder into the right pleural cavity, where it was firmly held by strong adhesions. The margin of the opening was free throughout the greater part of its extent, and the hand could be freely passed from the abdomen into the thorax in front of the line.

At the meeting of the Chicago Pathological Society, held December 11th, Dr. Hektoen described a new pathogenic fungus, the sporothrix of Schenck. This fungus was first described by Schenck who isolated it from refractory subcutaneous abscesses of the forearm and arm of a man. Dr. Hektoen obtained the same fungus from a series of similar, very refractory subcutaneous abscesses of the hand and forearm in a boy under the care of Dr. Perkins of Shenandoah, Iowa. The fungus consisted of septate, branching threads; around the ends and along the sides of the branches appear oval and oblong conidia, which, when isolated, greatly resemble yeast bodies. The fungus grows readily on ordinary media and stains by Gram's method; it is pathogenic especially for rats and mice, producing ulcers and chronic abscesses with much connective-tissue formation; only the spores or conidia are found in the lesions. The report was illustrated with a series of excellent lantern-slides.

At a joint meeting of the Chicago Medical Society and the Chicago Medical Examiners' Association held December 13th, Dr. Harold N. Moyer read a paper on "Relation of Mental Diseases and Residence in an Asylum or Sanatorium to Life Expectancy." He said that life-insurance examination, the only purpose of which is to determine probable longevity, furnishes the basis of a contract between insured and insurer. The blank forms for data gathered by the medical examiner might be improved by a form calling for family and personal history to be filled out and filed by the applicant. This would give the examiner wider latitude in passing on the risk, and overcome the tendency of some to sink the spirit of the examination in the latter.

The most important nervous disease in relation to insurance is paretic dementia. The average duration of life after an attack is about three years. The symptoms of this disorder are not covered in the ordinary blank. It is not the outcome of specific diseases, mental strain being the most frequent contributing factor; the slight importance attached to this by the applicant, however, causes it to pass without notice. Where amounts of insurance beyond the supposed means of the individual are applied for, paretic dementia should always occur to the mind of the examiner and a careful inquiry should be made into the immediate history of the applicant.

Dr. Weller Van Hook followed with a paper on the "Relation between Rectal Diseases and Life Expectancy," in which he discussed the commoner diseases of the rectum, hemorrhoids, stricture, abscess, fistula, gonorrhea, ulcerations, prolapse, and carcinoma, in causal relation to one another and in relation to life expectancy.

Dr. Denslow Lewis discussed the "Examination of Women for Life Insurance." He said that life insurance is a business proposition. The basis of calculation in life insurance is not perfection of health, but a standard. The average life probability of standardized groups is the basis of insurance statistics. The perpetuity of life insurance and the reliability of actuarial computation depend on the determination of the standard. The prescribed examination of women fails to discover many important pathologic conditions which affect the risk and influence the standard. Dangers of child-bearing are now considered compensated by diminished exposure, more regular mode of life, etc. Increased moral risk is recognized in young divorced widows, and the influence of economic and sociologic relationship is appreciated. Gynecologic examinations should be made in every applicant to determine pathologic conditions not discovered by the usual form of examination which was devised originally for investigation of men. Hardening of the breast is a cause for rejection unless the sequel of recent abscess. If the finger in the vagina cannot touch the promontory of the sacrum the conjugate diameter may be assumed to be sufficient for the parturition. Lacerations

of perineum and cervix are especially important when infected. Leucorrhea usually indicates infection which should be investigated. Infection is always a potential danger, for the limits of possible extension cannot be determined. The differential diagnosis for insurance purposes is unnecessary. Tenderness in either fornix and any intrapelvic deviation from the normal condition, as determined by bimanual examination, is sufficient cause for postponement or rejection.

Dr. J. Homer Coulter dealt with the "Relation of Chronic Ear Diseases to Life Insurance," confining his remarks to the subject of chronic suppurative otitis media. An acute suppuration of the ear will, if left alone, tend to become chronic, and many cases improperly treated will tend either to seriousness or chronicity; hence, a complete and fully detailed report of the case is necessary in examining an individual for life insurance. Medical directors generally do not accept an applicant for insurance at ordinary rates who gives a history of chronic or repeated attacks of acute inflammatory affection of the ear. While this rule may work injustice in some cases, it is the only course to protect the companies, except in those few rare instances where the applicant is willing to pay for the services of an expert otologist who can give a technical report upon his case. It is not because of the proportion of fatalities that occur in suppuration of the middle ear that the speaker would urge its particular importance in relation to life insurance, but rather because of the large number of suppurating ears met in practice, any one of which is liable to go on to mastoid involvement, with sinus or brain complication, and death. Admitting the seriousness of this class of cases generally, even with the best treatment, and also the practical fact that those afflicted with chronic suppuration of the ear are not considered insurable at ordinary rates, the very pertinent question arises, can these applicants become safely insurable risks by any method of treatment or operation? Or, Are any of them with less prominent symptoms only being manifest, in their present condition, deserving of a first-class rating? Most important in this connection is the necessity of an examiner in whom the medical director places implicit confidence. If from such an examiner, using appropriate instruments, a complete report is received as to the functional activity of the ear, and in connection therewith a carefully detailed history of the symptoms of the case from the time of the first attack, then will the medical director be in a position to determine whether or not the applicant is an insurable risk. If the applicant be entirely free from attacks of tinnitus, vertigo, headache, disturbance of vision, or itching in the ears, for a period of several years, then he may be considered safely insurable so far as the ears are concerned.

Horse Sickness in Natal.—One of the worst enemies with which the British cavalry in Natal will have to contend goes by the names of "dikkop" and "throat sickness." It is a species of anthrax. Experts describe it as a soil-developed disease, produced by a small living organism, of a vegetable nature, known as the Bacillus Anthracis.

SPECIAL ARTICLE.

TO THE MEMBERS OF THE MEDICAL PROFESSION IN THE UNITED STATES.

THE cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into Congress the bill for the "Further Prevention of Cruelty to Animals in the District of Columbia," which he has so strenuously and misguidedly advocated in the ast two Congresses. Its present number is "Senate Bill No. 34." Twice the Committee on the District of Columbia has also unfortunately and misguidedly reported the bill with a favorable consideration. The bill is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals. The real object of the bill is twofold: first, to prohibit vivisection and, secondly, to aid the passage of similar bills in all the State Legislatures.

I need hardly point out to you that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and the three medical departments of the Government, the Army, the Navy, and the Marine Hospital Service. The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and herds. All those who raise or own animals, such as horses, cattle, sheep, pigs, chickens, etc., are vitally interested in the preservation of their health and the prevention of disease.

The inestimable value of these scientific researches as to the prevention and cure of disease among human beings it is superfluous for me to point out. Modern surgery and the antitoxin treatment of diphtheria alone would justify all the vivisection ever done.

As my attention has been called officially to the introduction of the bill I take the opportunity of appealing to the entire profession of the country to exert themselves to the utmost to defeat this most cruel and inhumane effort to promote human and animal misery and death and to restrict scientific research. It is of the utmost importance that *every physician* who shall read this appeal shall *immediately* communicate especially with the Senators from his State, shall also invoke the aid of the Representatives from his or other districts in his State and by vigorous personal efforts shall aid in defeating the bill.

It is especially requested also that all of the National, State, and County societies at their next meeting take action looking toward the same end. If regular meetings are not soon to be held special meetings should be called. Correspondence is invited from all those who can give any aid.

The Committee on the District of Columbia consists of Senator James McMillan (Michigan), Chairman, and Senators J. H. Gallinger (New Hamshire), H. C. Hansborough (N. Dakota), Redfield Proctor (Vermont), J. C. Pritchard (N. Carolina), Lucien Baker (Kansas), C. P. Wetmore (Rhode Island), C. J. Faulkner (W. Virginia), Thomas S. Martin (Virginia), Wm. M. Stewart and

Richard Kenney (Delaware). Personal letters may be addressed to them or to other Senators. Petitions should be addressed to the Senate of the United States.

W. W. KEEN,

President of the American Medical Association.

PHILADELPHIA, DECEMBER 16, 1899.

[The urgency of this appeal and the value and importance of prompt action by the individual members of the profession as well as the organized societies and associations cannot be too vigoriously insisted upon. Let us one and all stand shoulder to shoulder in this matter, and make it plain to Senators and Representatives that the solid vote of the profession in the County, the District, and the State, regardless of party politics, will be cast against the man who fails in his duty in this matter. The bill is a blow aimed at the very foundation of scientific medicine, and that to us is the most vital question that can be raised. A flood of remonstrance, such as is contemplated in this appeal, cannot fail to open the eyes of Congressmen to the serious nature of the bill and the earnestness of the profession.—ED.]

CORRESPONDENCE.

NOTES ON MANILA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—As a member of the Medical Commission sent by the Johns Hopkins University to study the tropical and other diseases in the Philippine Islands, I send you a few notes gathered from personal experience which may prove of interest to your readers.

The climate is continually that of summer, the heat, especially, during the wet monsoon being peculiarly moist. It is the constancy of the heat through night and day, together with the high degree of humidity, rather than the actual elevation of the temperature which makes the climate trying. The northeast monsoon prevails from October to April, and corresponds to the finest portion of the year in the Philippines. During these months the climate leaves but little to be desired. May and June are the two hottest months in Manila, and these months, together with the beginning of the wet season, are the most difficult to bear. The wet season corresponds to the period of prevalence of the southwest monsoon. Typhoons or circular storms may occur at almost any time, but espepecially when the monsoon changes. They cause enormous losses of life and shipping, though now, through the activity of the Jesuit fathers at the Manila observatory, the approach of a typhoon is always recognized at an early hour, so that storm signals can be raised along the coast and the advent of the storm be communicated to Hong Kong by submarine cable.

Modern Manila is a composite town consisting of the old walled city and a large number of suburbs, each with its own special name and streets The same name may be given to a street in two different suburbs, so that in giving one's address it is often necessary to associate the name of the suburb with that of the street. Outside the walled city the main business portion of the town is in the region known as Binondo. The aristocratic residence quarter for the Spaniards was the suburb called San Miguel. In this district was the Governor-General's residence and the homes of many of the Spanish officers and foreign consuls. In Ermita and Malate most of the rich foreign traders reside. Tondo was almost a purely native district, and it will be remembered that it was here that the worst outbreaks occurred during the insurrection. This portion of the town was almost entirely burned down. Other districts are Concepcion, Santa Cruz, Quiapo, Sampaloc, and Paco.

The fortifications about the old city consist of bastioned and battlement walls built at the end of the sixteenth century. Just outside the walls, except where the city is naturally surrounded by water, there are deep moats said to be paved at the bottom and provided with sluices with which they can be filled with water from the Pasig River. These moats are now partly full of water, the edges are overgrown, and there is much mud and organic refuse in the bottom. An attempt was once made to cleanse the moats, but was soon abandoned, as it was feared that the removal of the stagnant water and putrid vegetable material might give rise to a severe epidemic. The city is lighted by electric light; the paving is for the most part inferior. A tramway runs through the town, the cars being drawn by ponies, most of them in wretched physical condition. There were several daily papers in Spansh times, but nearly all of these have given place to English dailies since the American occupatiou. The population of Manila, including the suburbs, was estimated in 1896 to be 340,000. The total population of the islands is probably less than 8,000,000, of which 100,000 are Chinese. There were at the time of the outbreak of hostilities about 25,000 Europeans in the Archipelago.

The city of Manila is supplied with excellent water, which is pumped to a large reservoir situated several miles from the city, and thence conducted into the city by large pipes.

The hospitals in Manila may be conveniently divided into the military hospitals and the civil hospitals. The American army hospitals consist in the first place of two large institutions, the First Reserve Hospital situated in Concepcion and a Second Reserve Hospital located in Malate. Besides these two there are situated in different parts of the city various district and regimental hospitals which attend to minor ailments of soldiers and serve as feeders for the larger institutions when more severe diseases are encountered. Colonel A. A. Woodhull is the surgeon in chief of the army forces in the Archipelago. His extensive medical experience, together with his unusual executive ability, largely account for the excellent administration which one finds in Manila. The First Reserve hospital, under the charge of Major Crosby and a large force of surgeons and physicians, has some 1200 beds, and to it come most of the gunshot wounds and a large proportion of the very acute diseases. The wounded insurgents are also cared for here. The Second Reserve Hospital, under Major Keefer and a number of assistants, was originally intended as an overflow hospital for the First Reserve and for the reception of con-

valescent and less severe cases. As matters have turned out, however, this hospital has come to contain as severe cases as the First Reserve. The hospital-ship "Relief," lying in the harbor, also received acute surgical and medical cases As a convalescent hospital the institution on Corregidor Island has proved most valuable. The air there is cool and fresh, and patients sent there have almost invariably done well. The wounded and sick from the various regiments on the fighting line, and the stations outside Manila are brought in by railway or by wagon-train to the Manila hospitals. At the First Reserve Hospital there is an excellent laboratory, which during our visit was under the charge of Lieutenant Strong. Through the courtesy of Colonel Woodhull and the hospital authorities this laboratory was placed at our disposal, and all of the patients in the various hospitals were freely made accessible to investigation. Clinical studies were conducted in the wards, and in the morgue autopsies were conducted. Bacteriological examinations and studies of the blood, together with animal experiments, were made in the laboratory.

Of the city hospitals in Manila may be mentioned San Juan de Dios in the walled city, the Hospital de la Convalecencia and Hospicio de San José, on an island in the Pasig River, and St. Lazarus, the asylum for lepers, in the ward of Santa Cruz. These civil hospitals were also made accessible to the work of the medical commission through the courtesy of Major Frank Bourns of the Provost Marshal's department. Dr. Bourns, who had charge of the sanitation of the Manila, deserves great praise for the energy he has displayed in reorganizing the sanitary regulations

When the American army first went to Manila there was a large mortality among American soldiers from smallpox. Among the natives the disease was as common as measles or scarlet fever, and not much more feared than these diseases. A large proportion of the faces one sees in the streets are pitted. Dr. Bourns immediately undertook the vaccination of the whole population of Manila. He had to use at first imported virus, but this being unsatisfactory on account of imperfect communications and the very hot climate, an attempt was made to prepare a virus in the city. Cattle being unattainable owing to the insurrection, he was forced to institute a *carabao* (water buffalo) vaccine farm. This proved to be very satisfactory, and the lymph produced is as effective as can be desired. Some eighteen Filipino physicians were engaged to vaccinate the native population, and the work was done so thoroughly that when we were in Manila smallpox had been almost entirely stamped out.

Soon after our arrival in the islands we had the opportunity of studying a large outbreak of beri-beri, and Colonel Woodhull asked us to examine a number of Filipino prisoners confined in the old Spanish prison at Cavite suffering from the disease. No less than 200 of the 1000 prisoners there developed beri beri, and the various types could be studied with ease.

It is customary to divide cases of beri-beri into three main types: (1) The edematous form, (2) the paralytic form, and (3) the mixed form. In nearly all cases circulatory disturbances are marked early in the disease. There is palpitation of the heart and throbbing of the peripheral vessels. Physical examination shows enlargement of the heart, especially of the right side. This enlargement is due chiefly to dilatation, and is accompanied with very marked cardiac distress. The patients cry out as one goes through the ward, "Mi pecho, mi pecho!" Digestive disturbances are also common at the beginning. There is nausea, anorexia, and frequently vomiting. In the edematous form the legs begin to swell, and the edema gradually extends upward until in some cases the whole body is involved. In very severe instances there is hydroperiteneum, hydrothorax, and hydropericardium. Many of the latter cases terminate fatally.

In the paralytic form without edema disturbances of locomotion come on gradually. The symptoms resemble closely those of peripheral neuritis, but differ somewhat from the latter disease as ordinarily met with. Many observers believe that no actual neuritis exists, but only a degenerative process. Pain is usually present in some part of the body. Pressure on the muscles of the calf usually causes excruciating pain. Sensation may or may not be considerably involved. The reflexes also vary with the distribution of the neural lesions. After a time muscular atrophy sets in, and these patients may become much emaciated.

In the so-called mixed form edema and paralysis are associated. The clinical and epidemiological history of the disease speaks strongly in favor of an infectious nature. The symptoms are those of a severe intoxication.

Cultures made from the blood from a large number of cases yielded negative results. Careful autopsies were conducted on those who died while we were in the islands, and the pathological material collected was brought back to this country. It will be thoroughly studied and the results published later.

LEWELLYS F. BARKER, M.D.

BALTIMORE, MD.

OUR LONDON LETTER.

THE "HEALTH ARMY" OF THE TRANSVAAL COMPAIGN—STRIKING CASE OF LEPROSY AT THE POLYCLINIC — NEWCASTLE CONFERENCE ON MEDICAL POLITICS—GOVERNMENT BY SMALL AND IRRISPONSIBLE OLIGARCHIES — DEMAND FOR "ONE PORTAL" TO THE PROFESSION— MEETING OF GENERAL MEDICAL COUNCIL—PROPOSED RECOGNITION OF "FOREIGN DEGREES."

LONDON, December 9. 1899.

AS usual our profession is in no whit behind in the present schemes of philanthrophy for the care of the families of reservists called to the front. Ten days or more ago several physicians proposed that the profession agree to treat the wives and families of soldiers without fee and this has been cordially responded to upon all sides, and lists are being forwarded to the head military authorities in each district of the names of doctors willing to volunteer for this gracious service.

A most typical case of leprosy in a Norwegian sailor,

showing the brownish bosses on the forehead, the thickening and flattening of the bridge of the nose, the loss of the eyebrows and sclerosis with anesthesia of the skin of the hands and feet, was shown at the Polyclinic this week by Mr. Hutchinson. The part played by the anesthesia in some lesions of the disease was well illustrated in the enormous scars which marked the hands, the largest of which had been due to the patient resting his hand against the edge of a stove and not noticing the injury until quite severely burnt. This makes the eighth case of leprosy shown in the surgical clinic at the college in the past five months.

The conference on medical politics held at Newcastle the past week was a meeting of much importance and significance. It was called primarily for the purpose of enabling the three members of the General Medical Council elected by the direct vote of the profession at large, Mr. Horsley, Mr. George Brown, and Dr. Glover, to report to and consult with their constituents in that part of the kingdom on some important questions of medical politics. Indeed, it may be best described and is generally referred to as a conference on medical politics. Mr. Horsley's address was a vigorous comment upon and demand for the reform of the method of electing the great governing bodies of the profession, the Colleges of Physicians and Surgeons, and the General Medical Council. The situation in all these bodies is one singularly like that in our own United States Senate, in that they are elected not by the direct vote of the profession but by a variety of small corporations and organized bodies which, like State Legislatures, can be "packed," so that in Mr Horsley's vigorous terms, "our unfortunate profession is governed by a series of small oligarchies who regard themselves as entirely irresponsible to the great body of practitioners "

As we have already pointed out the proceedings of the business sessions of the British Medical Association are really little better than a farce, on account of the almost absolute power possessed by the General Medical Council, supposed to be elected by the association, and the Councils of the College of Physicians and College of Surgeons which are both elected by a small and comparatively select body numbering scarcely a tenth of the total membership of the colleges, and turning an absolutely deaf ear, as shown in the late account of the Council of the Royal College of Surgeons in regard to the new charter, to all appeals to admit the mass of their constituents to even a partial voice in their election. And as both of these governing bodies are composed chiefly of consultants or specialists it may be imagined how easily questions affecting the general practitioner can be shelved or delayed in settlement.

Sir George Brown's address dealt chiefly with the most anomalous and unsatisfactory condition of the hopeless variety of degrees or qualifications entitling to practise in England and made a vigorous plea for the institution of, what has now come to be quite generally demanded by the rank and file of the profession, a "one portal" system, by means of a State Examining Board, instead of the ancient and cumbrous corporations which now perform this function. Such, however, is the power of precedent and the respect and affection for established usage in England that we fear it will be long before this "council of perfection" can take actual practical form.

Dr. Grover devoted himself chiefly to the burning question of medical practice, and urged the formation of a strong and competent conciliation board which should plan some "modus vivendi" between the clubs with their nearly three million members and capital of nearly $120,000,000, and the hitherto comparatively scattered and unorganized medical profession. He recognized frankly that contract medical practice would have to be accepted for the present at least as a feature of medical work and the best possible terms should be made with it. The discussion which followed was keen and interesting, the proceedings lasted altogether nearly five hours in continuous session, and from the general feeling of approval in the profession it seems likely that these meetings, inaugurated we believe by Mr. Horsley, will be held in every section of the Kingdom and become an important factor in the development and protection of our professional interests.

The meeting of the General Medical Council which is being held this week will deal with several important questions, among them the ever recurring one of contract medical practice and the dispensing of drugs by physicians, this latter being given special point by the painful death of Dr. Dick, reported some months ago, from an overdose of his own medicine, taken to re-assure a patient. The third main subject is of some interest to American practitioners, *viz.*: "medical reciprocity," as it is termed, in which the question of recognizing the degrees of at least certain colleges and bodies in foreign countries, as entitling to practise in England, in return for similar concessions as to English degrees will be considered.

This has been referred to the council in practical form by no less an authority than the British Government, on the basis of a proposition from the Italian ambassador, asking whether if English practitioners were admitted to full privileges in his country, Italian practitioners could be granted similar rights in England and her colonies. As on account of the rapidly increasing winter colonies of English and Americans in the South of Europe this privilege is one greatly coveted by English medical men, it looks as if some positive action were likely to be taken, although there is at once a most powerful opposition to the granting of similar privileges to Italian practitioners here. And though no formal application has been made from any American body or practitioner in this regard, the cry has already been raised that if this door be opened, it will finally lead to the flooding of England with American medical men attracted by the large American colony, or that English students will flock to America and return decorated with the shorter-term American degrees.

Plague Mortality in Hong Kong.—The Governor announced at a meeting of the Legislative Council that the total number of deaths of bubonic plague that had occurred at Hong Kong during the present year was 1413.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

GERMAN SCIENTISTS MEETING AT MUNICH—NANSEN'S POLAR DISCOVERIES—RADIOGRAPHY IN RELATION TO SURGERY—THE NATURE OF ASTHMA—POSITION OF THE STOMACH—TREATMENT OF SACRO-ILIAC TUBERCULOSIS—AN UNUSUAL OUTCOME OF ACUTE OSTEOMYELITIS—IMPLANTATION OF THE UTERUS FOR THE CURE OF FISTULA. PERFORATION OF INTESTINE FROM INGESTED BONE—GOOD AND BAD RESULTS FROM X-RAYS—A COLLECTION OF LYMPH FOLLOWING INJURY—HEREDITARY GOITER—HEREDITY A FACTOR IN CYSTIC KIDNEY.

THE Seventy-first Convention of German Scientists and Physicians, held at Munich from September 17th to 23d, was opened by several addresses of historical and local interest. The Arctic explorer NANSEN, in an address profusely illustrated with lantern-slides, described the character of the Siberian coast and of the islands lying to the north of it. He made the most interesting discovery that the supposedly shallow Polar Sea really possesses a depth of more than 4000 meters (nearly two and a half miles). The "lifting" of the polar ice is due, he said, to the influence of warmer streams of water acting upon it from beneath. At various places in the ice are found fresh-water lakes, which afford not only excellent drinking-water, but have their own fauna and flora. At no place did he find the temperature of the air below —53° C. (—63° F.), while on the main land of Siberia there has been noticed a temperature fifteen degrees lower than this. For this reason and others Nansen is convinced that at the very Pole in summer birds and perhaps also walruses may be found.

BERGMANN spoke of the possibilities of radiography in the treatment of surgical disease. He outlined the successes already accomplished with the help of the X-ray, but he did not take as rosy a view of its possibilities in the diagnosis of internal troubles as some others have done. In military surgery and in the treatment of deformities the success of the X-ray is well known.

In the Section for Internal Medicine RIEGEL spoke of the treatment of asthmatic attacks. By experiments made to determine the part played by the bronchial muscles in such attacks he concluded that asthma, whether of an idiopathic or reflex nature, is produced through the influence of the vagus nerve. This being the case, the various narcotics which have been employed should be laid aside, and an attempt should be made to reduce the irritability of the vagus nerve. For this purpose no remedy is superior to atropin. In many cases a single subcutaneous dose will suffice to cut short an attack.

MEINERT disputed the idea of Rosenfeld that a horizontal position of the stomach is pathological, and that the only normal position is vertical. The position of the stomach is different in different people. Moreover, it is determined to a large extent by the condition of the surrounding organs. In slim individuals the transverse position may be normal, while in others, especially in women, the normal position may be a vertical one.

In the Section for Surgery, BARDENHEUER advocated resection of the sacro-iliac synchondrosis for tuberculosis. The trouble is almost always a primary local one, and is usually found in men in the third decade of life. The sacrum is often affected so that the disease may extend through it into the corresponding joint of the other side. The chief symptoms are pains in the back, made worse by long standing, and projected downward along the sciatic nerve; pain on pressure upon the joint either anteriorly or posteriorly, produced also by pressure on the iliac crests, and the formation of abscess, appearing either below Poupart's ligament or under the gluteal muscles or in the iliac region or behind the joint. Such patients untreated suffer from long-continued suppuration with amyloid degeneration, to be followed usually by tuberculosis of the lungs. Resection of the joint as soon as an abscess appears gives a chance of recovery. The mortality from the operation in his hands has been thirty per cent.

MULLER described an unusual outcome of acute osteomyelitis which he found three times in 400 cases. The disease, instead of resulting in an abscess and the formation of a fistula, produced a limited callous which clinically gave the appearance of a malignant tumor, such as sarcoma, rather than that of osteomyelitis. In two instances such a tumor was movable. In the center of the induration was a granulating cavity containing a small sequestrum.

In the Section for Obstetrics and Gynecology FREUND spoke of the final results of implantation of the uterus for the cure of obstinate fistula and total prolapse. The operation consists in tilting the uterus backward and sewing it into the fistula which other operations have failed to cure. In young women the permanent result of the operation was found to be cessation of menstruation. The continence of the bladder and rectum was perfect, as was the cure of the prolapse in older women. The possibility of coitus was removed except in certain instances in which the whole cavity of the uterus became dilated and its walls thin and soft. In all patients there was a notable atrophy of the uterus.

WERTHEIM described his method of vaginal implantation of the uterus for the relief of prolapse, which is a modification of the method recommended by Freund. The results were excellent. A short time after the operation the anterior wall of the uterus which lies bare in the vagina begins to skin over, and after eight or ten weeks this process is so complete that the abnormal condition is scarcely recognizable. Pain is so slight that the entire operation may be carried out without an anesthetic, an advantage in the case of certain elderly patients. By his modification of Freund's operation the possibility of coitus remains undisturbed.

AT the session of October 20th of the Imperial Royal Society of Vienna, BUDINGER showed a portion of the small intestine of a man who died of acute peritonitis. He had been ill for eight days with pain in the lower portion of the abdomen, and an incision had been made into a tender tumor under the supposition that it was a strangulated hernia. It proved to be an abscess cavity in a small hernial sac, and in it was found a sharp-pointed piece of bone about an inch and a half long.

There were two complete perforations through the wall of the small intestine. The gut was resected and sewed up, but the patient died of acute peritonitis.

SCHIFF spoke of the two different ideas held by different surgeons regarding the possibility of injury by prolonged exposure to the X-rays. Von Bergmann recently expressed his opinion that the X-rays are incapable of having either an injurious or beneficial effect, while others have reported marked improvement in various skin affections by the proper use of the apparatus. As an illustration of the latter, he presented some patients who had suffered from sycosis and favus, and whom he had presented to the same society a few months previously They were all cured by the radiotherapeutic treatment, and up to that time there had been no sign of recurrence. The rapid and complete cure of favus was especially noteworthy.

At the session of October 27th KAPOSI showed a patient as an illustration of the injurious effects of the X-ray. An old man whose hand was frequently exposed to their influence for the purpose of epilation suffered from a dermatitis of the back of the hand, which was followed in spite of most careful treatment by ulceration, and finally necrosis of the extensor tendons. The speaker mentioned a number of other instances in which long-continued erythema, eczema, necrosis, and gangrene had developed three or four weeks after exposure to the X-rays.

BENEDIKT called attention to the fact that these injurious effects followed a therapeutic use of the rays, and that a short exposure for diagnostic purposes is in no way dangerous. In this opinion Kaposi and others concurred.

At the session of November 17th LANGER showed a coachman who had slipped in getting down from his cab, and scraped his back and left thigh in falling. In the right lumbar region some days later a soft tumor made its appearance about three times the size of the palm. The skin over it was slightly reddened, and it fluctuated plainly. The explanation given was that the scraping injury loosened the subcutaneous tissue, and that an effusion of lymph took place in the cavity thus formed. This is a pathological condition which has been studied by Gussenbauer. The resorption of such cystic deposits of lymph takes place very slowly. Pressure and the injection of irritating solutions having failed to accomplish this purpose, the cavity should be incised and allowed to granulate.

At the Berlin Medical Society, October 18th, HOLLANDER presented five sisters, all of whom were suffering from a diffuse hyperplastic form of goiter. No one of them presented serious symptoms of the nervous or circulatory systems. The chief interest in these cases lay in the fact that they were undoubtedly examples of hereditary goiter. The mother of these young women, as a girl, had lived in a goiterous district and had early developed a large goiter. She moved afterward to Berlin where she married and has lived there ever since. She had seven children, six of them being girls. Each one of the girls developed a goiter when about eleven years of age. Some of the growths were sufficiently large to interfere with respiration. Operation upon a goiter of this type is inadvisible as it usually reacts favorably under iodin either externally or internally administered. One of the patients received thyroid extract for about a month with a negative result.

At the session of November 1st ISRAEL showed a malignant tumor which had developed from an undescended testicle in a patient aged thirty-nine years. The attention of the patient had never been attracted to his inguinal region until a few months before when slight pain caused him to examine himself and he found a small prominence in the lower portion of the abdomen especially on the right side. At operation, the tumor was found to be retroperitoneal. Its under surface was in close contact with the external iliac artery and the bladder. Its removal was extremely difficult, but it was accomplished without injury to the surrounding structures. Microscopically it was found to be an alveolar sarcoma.

SOCIETY PROCEEDINGS

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Proceedings of the Twelfth Annual Meeting, Held at New Orleans, La., December 5, 6, 7, 1899.

DECEMBER 5.—FIRST DAY.—AFTERNOON SESSION.

(Concluded from page 814.)

DR. LEWIS S. MCMURTRY of Louisville, Ky., read a paper on

RECTOVAGINAL FISTULA.

He said that excluding cancer extending from the cervix uteri, rectovaginal fistula is due to traumatism, not to the compression of the tissue, as is vesicovaginal fistula, but extensive rupture of perineum involving the rectovaginal septum, cicatrizing inferiorly, but leaving a perforation above where the septum is thin and permits contact of vaginal and rectal mucous membranes, thus uniting these membranes and making a permanent opening. Wounds made in instrumentation through the vagina, and the pressure of foreign bodies retained in the vagina sufficiently long to produce ulceration and necrosis, are among the rare causes of this lesion.

The most common site is in the lower portion of the vagina, just above the sphincter muscles, and at the point already indicated where the septum is thin and the mucous surfaces are in close proximity one to the other. The opening is usually very small, and the mucous membrane is reflected around like a fringe, making its detection more amenable to touch than to sight.

The method usually applied to the repair of vesicovaginal fistulæ, whereby the edges are freshened in a funnel-shaped denudation, will rarely succeed in repairing a rectovaginal fistula. The action of the anal sphincter, the penetration of fecal matter, and the sparse layer of tissue prevent repair by this method. The divulsion of the sphincter muscle will not suffice to overcome this obstacle to success in the large proportion of cases. Ex-

tensive cicatricial deposit is another obstacle to repair by this simple procedure. The operation, in consequence, is resolved into a modified perineorrhaphy, by which the fistula is transformed into a complete tear of the perineum. The method of flap-splitting popularized by the late Mr. Lawson Tait is preeminently applicable to this procedure. By this method broad surfaces are supplied without loss of tissue and it permits gliding of the vaginal and rectal orifices of the fistula so as to interpose firm and healthy tissues. In exceptional cases, where the fistula is so low down as to be within the grasp of the sphincter, it will be best to divide the septum vertically, freshen liberally the margins of the fistula, and suture the surfaces as in complete laceration of the perineum.

In a very limited class of cases, wherein the fistula is small and cicatricial deposit is not extensive, a simple denudation and suturing after divulsion of the sphincter ani muscle might succeed. The flap-splitting method already mentioned would be found most applicable and should be preferred for general application. Vertical division of the septum should be the first step of the operation in low fistulæ with extensive cicatricial deposit, and the operation is then resolved, after paring the edges of the fistula into the operation for complete tear of the perineum. It will rarely be necessary to use buried sutures; when used, these should be of catgut and should be introduced after the Lembert plan. As already stated, the flat-splitting operation of Tait has the greatest field of usefulness in this procedure. The following case is of special interest, both on account of the unique cause of the fistula, and the consequent deduction that a very simple and common gynecological appliance is not without danger under certain circumstances.

Miss C. W., aged thirty-one, never married, a teacher, was the subject of a backward displacement of the uterus. In August, 1899, she applied to a physician for treatment, and a metallic pessary of the Hodge pattern was inserted. The pessary was placed on a Thursday by the physician who had referred the case to Dr. McMurtry, and the patient returned to her home some thirty miles distant from the physician. On the second day the patient began to suffer pain, which increased day by day, and when examined by the physician on the Monday following, the pessary was found protruding into the rectum and was removed per anum. When the patient was referred to him on October 6th, there was an opening in the recto-vaginal septum just above the anal sphincter of oval form that would readily admit the end of the little finger. The operation consisted of divulsion of the sphincter, separation of the vaginal mucous membrane, freshening the edges of the fistula, and suturing with Lembert sutures of catgut the rectal portion of the fistula, gliding and suturing the vaginal mucous membrane. Union was prompt and perfect, and the patient is now quite well.

DR. C. JEFF MILLER of New Orleans read the report of an interesting case of what he and others considered an ossified uterus. He presented the specimen.

SECOND DAY—MORNING SESSION.

DR. W. D. HAGGARD of Nashville, Tenn., contributed a paper on

THE SURGERY OF BILIARY CALCULI.

He emphasized the fact of the frequent finding of gall-stones in the abdominal cavity, but said their unsuspected existence was not a valid contraindication to operation in cases which, owing to certain complications, menace well-being and perhaps life itself. After enumerating the usually assigned cause of gall-stones, he impressed the undetermined probability of infection. The continuous pain in inflammatory and suppurative conditions of the biliary passages was contrasted with the intermittent and paroxysmal pain from biliary concretions. In connection with the diagnosis, the fact that jaundice was not essentially a sign of gall-stones was emphasized, and waiting for icterus as an evidence of their existence was hurtful.

The relatively small number of operations, compared with the frequency of the disease, indicated that they were either overlooked, failed to give rise to serious trouble, or that the symptoms were taken for other diseases. Surgery of the gall-bladder was almost perfected, but the management of calculi in the ducts by various methods was yet unsettled.

The following case of cholo-cholecystotomy for chronic catarrhal cholangitis with gall-stones was reported:

B. J. G., white, male, aged twenty-seven years. He had his first severe attack of biliary colic attended with tenderness and jaundice in February, 1897. He had had a severe light attack of hepatic colic some weeks before. He was operated on the day after he was taken with the severe attack by Dr. J. F. W. Ross of Toronto. A number of stones were removed, a fistula made, and a drainage-tube kept in for two weeks. The fistula remained open until June, 1897, when Dr. Ross closed it by suture, and the man, who had been in bed the whole of four months, was up in a week. In November, 1897, he again had a number of attacks of colic and jaundice, which kept up intermittently until March, 1898, when Dr. L. McLane Tiffany of Baltimore opened the gall-bladder, but finding no stones he closed it by immediate suture, fixing it to the abdominal wall, and closing the incision throughout. In June of the same year, while still in the hospital, he was again seized with attacks of colic and transient jaundice, which, in the absence of Dr. Tiffany in Europe induced his assistant, Dr. I. R. Trimble, to again open the gall-bladder for exploration. Dr. Trimble found no stones, and thought he succeeded in passing a rubber catheter through the cystic duct, and thence into the duodenum. The gall-bladder was sutured and attached to the abdominal incision, which was closed by buried and superficial silkworm-gut sutures. On July 3d he had received a blow on the skull with a piece of wood in the hands of a drunken assailant, which resulted in a fracture of the skull, which was elevated by Dr. Robert Pillow of Columbia, Tenn.

In August, 1899, fourteen months after the third gall-bladder operation the pain and colic returned, and were rather frequent and more severe than ever before. On October 1st he had a spell that lasted four days, and could obtain no relief from anything. He came to see Dr. Haggard in Nashville, and while there had one of the worst attacks he had ever seen of biliary colic. He gave

the patient 2¾ grains of morphin hypodermically in less than three hours, without any appreciable effect on the agonizing pain. He was not accustomed to taking morphin, and ⅛ grain after the operation had a very happy and full effect.

On November 12, 1899, in the presence of jaundice, which had existed pitifully for two months, Dr. Haggard made an exploratory operation through the old scar parallel with the ribs. As the gall-bladder was attached to the parietes it was opened, and a black, tarry fluid was found therein, and one single, large, gall-stone, soft, and perfectly black, and somewhat larger than a cherry stone, together with some smaller crystal-like stones. An effort was made to catheterize the ducts, as had been reported to have been done before without success. The gall-bladder was irrigated and packed with gauze temporarily. It was then dissected from the parietes below and a careful palpation of the ducts was made, but no other stones could be detected. The adhesions were considerable, as the result of so many previous operations and such long-continued inflammatory trouble, and the gall-bladder was much contracted. Kelly, Senn, and Murphy had all advised a cholecystectomy, but after he found no calculus obstruction to account for the recent colic and existing jaundice, he concluded it must be a chronic catarrhal cholangitis with inflammatory obstruction that came and went. He therefore deemed it unwise to do a cholecystectomy and decided to do a cholecystenterostomy. The duodenum, however, was so matted with adhesions, and the gall-bladder was contracted to such an extent, that he did not think he could make the anastomosis with safety. He therefore utilized the hepatic flexure, and made a Murphy-button anastomosis with gauze drainage. There was no untoward symptom; a little bile came out after the gauze, when it was removed on the third day, but none thereafter, the drainage-tract closed quickly. The jaundice faded, the urine cleared up, and the patient had two normal bowel actions a day, whereas he had been previously taking purgatives daily. He went home at the end of two weeks with a clear complexion, and a gain in weight, and has had no trouble since, but the button has not passed. McGuire reports a button retained over a year in cholecystenterostomy, but Treves has never had one remain in the gall-bladder.

In the discussion DR. F. W. MCRAE of Atlanta narrated a case operated upon a few months ago in which a diagnosis of cholecystitis was made. At the operation an unusual condition of affairs was found. Instead of a distended gall-bladder, he found enlargement of the liver, with great distention of a cavity in this organ, hard and nodular to the feel, and occupying this cavity and some small pockets in various directions in the liver were fifty-eight stones, which he exhibited. The adhesions were extensive, but no pus was found.

DR. J. G. EARNEST of Atlanta directed attention to the symptom jaundice, saying that it does not appear unless there is obstruction of the common duct. Simple obstruction of the cystic duct does not necessarily produce jaundice. In two or three cases in which he has found the gall-bladder filled with inspissated mucus and complete obstruction of the cystic duct, but no obstruction of the common duct, there was no jaundice, while in other instances of common duct obstruction, jaundice was present.

DR. HUGH M. TAYLOR of Richmond, Va., recalled a case which was diagnosticated at first as cholecystitis. The patient had been jaundiced for six weeks. The abdomen was opened, and on incising the gall-bladder and removing a stone from it, he found no obstruction of either the cystic or common duct. He did a cholecystostomy, drained the gall-bladder, but the patient did not recover health. Two months later he reopened the abdomen, and, after a very careful examination, found malignant disease of the head of the pancreas sufficient to press upon the common duct and produce jaundice.

DR. MANNING SIMONS of Charleston, S. C., reported a case in which he removed the whole gall bladder, and said, after a careful search of the literature at his command, he could find reports of only twenty cases. The tumor in his case presented just below the ninth rib as large as a goose egg. An exploratory operation was made, and the tumor was found to be the gall-bladder. The gall-bladder was removed because its walls were greatly thickened and pus had disseminated itself throughout its walls. He believes that if the gall-bladder had not been removed at that time, and promptly, there would have been extravasation of pus into the abdominal cavity. Three gall-stones were found. There was very little jaundice present.

DR. A. M. CARTLEDGE of Louisville, spoke of the cholemic cases, and said that in the use of the normal saline solution, employed subcutaneously or per rectum, for ten days, two weeks, or, in bad cases, three weeks, before operative interference, surgeons had one of the most valuable means of overcoming cholemia in patients with gall-stones.

DR. WILLIAM P. NICHOLSON of Atlanta followed with a paper, entitled

INFLAMMATION OF MECKEL'S DIVERTICULUM WITH RESULTING GANGRENE OF THE INTESTINE SIMULATING APPENDICITIS.

The pathological conditions arising from the diverticulum have been in most cases due to portions of the intestine being entrapped within the encircling cord where the diverticulum has existed in this form; while in some instances there has been an acute inflammation of the pervious tube that has caused adhesions and resulting obstruction. Again, the inflammation seems to have extended to the intestinal tube causing paresis of the bowel, especially simulating the later stages of appendicitis. In a few cases the symptoms and signs have been so much like inflammation of the appendix that a diagnosis has not been possible.

The author reported an interesting and instructive case, and mentioned briefly other cases he had found in consulting the literature. He also reported a case of successful implantation of an artificial testicle.

DR. T. J. CROFFORD of Memphis reported

TWO CASES OF INTRALIGAMENTOUS CYSTS.

CASE I.—Miss T., aged fifty, presented herself with an abdominal tumor July 1, 1899. A few days later the abdomen was opened. The tumor was found to be an intraligamentous cyst. Both ovarian arteries were ligated; the uterine artery was ligated upon the healthy side at as low a level as the internal os. The uterus was cut across; the uterine artery secured upon the tumor side and the enucleation of the tumor proceeded with. The loss of blood was considerable, although the enucleation was done rapidly. Several arteries in the broad ligament required ligation, and one or two deep down in the pelvis needed to be secured before hemorrhage was under control. The cavity was obliterated as much as possible by suturing together the two layers of the ligament. The woman recovered.

CASE II.—Mrs. S., aged forty-two, presented herself with an abdominal tumor October 31, 1899. During the month of June last she experienced an attack of acute peritonitis which came near terminating her life. The acuteness of the attack subsided, but a chronic peritonitis has existed ever since. Abdominal section was made November 6th. There were found two tumors, one on each side, developed between the layers of the broad ligaments. The ovarian arteries were secured near the brim of the pelvis. The tumors, which were not of very large size, were separated from the uterus as far down as the operator dared, and the uterine arteries were secured as low as possible after emptying the cysts. The hemorrhage was alarming at every attempt at enucleation upon all sides. The larger vessels in the broad ligaments and walls of the cysts, several in number, were, therefore, ligated. The upper portion of the sacs was trimmed off and covered with peritoneum. After the oozing had stopped the abdomen was closed without drainage. The patient has had an uninterrupted convalescence and has returned to her home.

The essayist said that Dr. Rufus B. Hall of Cincinnati had proposed the method of ligating both ovarian arteries and the uterine artery on the healthy side. The uterus was next amputated on a level with the internal os; the uterine artery on the tumor side was not secured, when he could peel out the cyst from between the layers of the broad ligament with a bloodless result. While he did not wish to detract from the merits of this achievement, yet the method is not to be implicitly relied upon as it will not control hemorrhage in all cases to a safe degree; that in some instances there will be found other vessels requiring ligation before the hemorrhage can be controlled within the bounds of safety. Some tumors of the broad ligament can be peeled out without hemorrhage; others will be attended with considerable loss of blood.

THE PRESIDENT'S ADDRESS.

This was delivered by DR. JOSEPH TABER JOHNSON of Washington, D. C. He touched on general subjects pertaining to the work and growth of the association. The Southern part of our country had furnished many noted surgeons and gynecologists to the medical profession, hence the name of the association derived greater appropriateness and significance from this fact. McDowell, Eve, Dudley, Sims, Thomas, Battey, and Emmet were referred to. The best gynecologists are now the best surgeons as far as they go. In abdominal, pelvic, and genital surgery, few general surgeons equal, and none surpass them. Their field of work was more narrow but none the less perfect and important on that account. While many gynecologists might take exception to such an absorption of their specialty, the gradual expansion of their work to the female pelvis gives the important argument for such an occurrence in the not distant future. It is not difficult to remember when gynecology was limited altogether to vaginal and pelvic work. Now, there are very few gynecologists who were not operating upon any tumor between the diaphragm and the vulva. The gynecologists attack ulcers and abscesses of the stomach and anastomosed that organ with the intestine. They did all surgery of the ureter and kidney, the liver and gall-bladder, of the intestines, the spleen and pancreas. They operate for appendicitis and for all the varieties of hernia, and did the surgery of the bladder, the rectum, and the mammary gland.

There was no afternoon session of the second day. The members and guests took the steamer "Warren" and rode to the sugar plantation "Stanton, owned by Milliken and Ruttledge, and inspected it.

SECOND DAY—EVENING SESSION.

DR. HUGH M. TAYLOR of Richmond, Va., read a paper on

EXPERIENCE IN OPERATIONS FOR TYPHOID PERFORATION.

It is claimed that one-third of the deaths from typhoid fever are due to perforation. Typhoid perforation is credited with a mortality of 16,660 each year in the United States. The specialist in surgery appreciates what surgery can do and has done in the treatment of typhoid perforations. The general practitioner, in whose hands these cases annually first fall, is not so well informed, and he believes the Association should express itself in no uncertain sound. It is claimed, too, that one-fifth of the deaths from typhoid fever are due to hemorrhage. This being so, it would seem just as unsurgical to let a typhoid patient die without an effort to save his life as it would be in the case of profuse hemorrhage from a gastric or duodenal ulcer, or even a ruptured tubal gestation. The author reported five cases, with one recovery from operation.

Less than 200 cases have now been operated upon. When one recalled the thousands of cases annually occurring, the need for cooperative study is apparent. Nothing short of a moribund condition of the patient should warrant surgeons in abandoning a case as hopeless. The key to success is early operation. More than one-fourth of the cases operated on have been saved by early surgical intervention. He believes that surgeons should be able to save more than 33⅓ per cent. by a time operation.

DR. F. W. MCRAE of Atlanta, Ga., reported some

interesting cases of abdominal surgery. The first case was one in which he operated for a pancreatic cyst; the second for hepatic calculi; the third for fecal fistulæ, and in the fourth case he did a combined appendectomy and nephrorrhaphy.

LITHOLAPAXY.

DR. GEORGE S. BROWN of Birmingham, Ala., read a paper with this title. A very limited experience with the operation of litholapaxy has led him to believe that it is being unwisely, although not altogether unreasonably, neglected. The most important cause for this neglect was that perhaps cutting operations, particularly the suprapubic, are very easy to do, and the results are very satisfactory. The author quoted the statistics of the different methods of operating for stone in the bladder, and reported cases in which he had resorted to litholapaxy with good results. The majority of stones met with in practice in this country can be removed with the lithotrite in the hands of an ordinarily careful surgeon, and that while it is not an operation to be undertaken by the general practitioner, no operating-room should be without one; suffering and time spent in bed are almost entirely eliminated, and the mortality is very much lower than that for either of the cutting operations.

DECEMBER 7TH—THIRD DAY—MORNING SESSION.

DR. E. D. FENNER of New Orleans, La., reported fifteen cases of spinal injuries treated at the Louisiana Charity Hospital.

DR. GEORGE H. NOBLE of Atlanta, Ga., described the modification of an operation for cystocele. He also reported a case of seventeen years' congenital nocturnal incontinence of urine and one of pregnancy in a uterus bicornus.

DR. I. L. WATKINS of Montgomery, Ala., presented a paper on "The Treatment of Retrodisplacements of the Uterus."

The following officers were elected: President, Dr. A. M. Cartledge, Louisville, Ky.; vice-presidents, Dr. Manning Simons, of Charleston, S. C., and Dr. W. P. Nicholson, of Atlanta, Ga.; secretary, Dr. N. E. B Davis, of Birmingham, Ala.; treasurer, Dr. W. D. Haggard, Jr., of Nashville, Tenn. Atlanta, Ga., was selected as the place for holding the next annual meeting. The time for meeting was the second Tuesday in November, 1900.

THE NEW YORK COUNTY MEDICAL ASSOCIATION.

Regular Meeting, Held November 20, 1899.

DR. F. HOLME WIGGIN, President, in the Chair.

DR. EMIL MAYER of New York City read a paper, entitled

THE TONSILS AS PORTALS OF INFECTION.

In his remarks he called attention to the fact that certain forms of infectious disease follow closely on tonsillar infection, the same micrococci existing in the former as in the latter, thus proving their tonsillar origin. Some of these facts are well known, while some others being but recently promulgated are not, and have, therefore, received but scant consideration.

The importance of a study of these conditions becomes very necessary in that most important field, preventive medicine. The pathology of the tonsil in disease was discussed, and the work of Hodenpyl, Patterson, Goodale, Cobb, and others mentioned. A result of these studies was reached in the conclusion that acute tonsillitis furnishes an entrance for bacteria into the system through the tonsils, and that this belief explains a pericarditis, for instance, and makes a belief in its rheumatic origin unnecessary.

A number of authorities were quoted showing conclusively the tonsillar origin of rheumatism. Other conditions noted to have followed directly after anginas were albuminuria, erythema, urticaria, purpura, erysipelas, orchitis, and oophoritis, pleuropneumonia, strabismus, paraplegia, and osteo-myelitis.

Angina pectoris has been reported to have followed tonsillar disease in four cases. Phlebitis of the leg, pneumonia, and purulent pleurisy are recorded as following disease of the tonsil. The tonsils have long been suspected as being the points of infection in tuberculosis, while it was well known that otitis media with its mastoid and intracranial complications followed tonsillar disease. It has been shown quite lately that endocarditis must be added to the list.

The case reported by Charrin was cited, that of a young man of eighteen years, who died of general pyemia consequent to tonsillar affection. The autopsy showed bronchopneumonia and deposits on the tip of the pulmonary valves. Staphylococcus aureus was found there and also on the white tonsillar exudate. Other cases were cited from the literature, including the five reported by F. A. Packard of Philadelphia To these the writer was enabled to add another which was seen by himself, for the history and diagnosis of which he was indebted to Dr. Jacob Fuhs of Brooklyn. In this case hemichorea subsequently developed. Recovery was complete.

Granting that the etiologic factors of some of the infectious diseases have been established, it becomes a duty to take steps tending to prevent such infection. Vigorous treatment with rest in bed was advised for the follicular tonsillitis, while the abortive treatment should be attempted in the cases of peritonsillitis. This, the writer said, he had been able to do so frequently that he declared it to be an established clinical fact if the patient was seen early. The remedy consisted of:

℞	Morph. sulph. . . .	gm. 0.06
	Tr. veratr. virid. . . .	4.0
	Aq.	126.0.

M. S. Teaspoonful every hour for three hours; then once in three hours.

In twenty-four hours all symptoms are gone. If not, the remedy is no longer efficacious, and the tedious wait of ten days of agony must be undergone.

After these anginas have subsided, a very careful examination of the fauces should be made, and every bit of tonsillar tissue removed either with the Farlow gouge or the galvanocautery.

The ordinary tonsillotomy was not sufficient.

The strictest attention to hygiene of the mouth should be enjoined even after thorough ablation of the tonsil. Under no circumstances whatever should any operative procedures be undertaken while an acute process is going on.

The conclusions arrived at were:

1. Infection arises in the tonsil.

2. Tonsillar affections are frequently serious in their sequelæ, and every step to prevent recurrent attacks should be taken.

3. The existing tonsillar disease should be energetically treated.

4. Careful examinations and treatment are absolutely essential in the interim.

5. Following anginas, the heart and other organs should be examined from time to time.

DISCUSSION.

DR. ISAAC ADLER opened the discussion. He said that he was indebted to Dr. Mayer for presenting this subject, as it was one in which he was especially interested. Regarding the pleuritic affection, this, he said, was indubitably proven. A rheumatic diathesis could not be regarded as a fact since the disease was the result of an acute infection.

He was not prepared to accept the pneumonia and angina pectoris cases as fully proven, although the pleurisy cases certainly were. Regarding the case of endocarditis cited, it seemed to him from the physical signs reported and absence of temperature that it was one of myocarditis. This was important, for it would explain much that was hitherto misunderstood if it could be explained that a myocarditis was as apt to follow a tonsillar angina of a non diphtheritic nature as it so frequently did in diphtheria.

DR. F. A. PACKARD of Philadelphia spoke of five cases he had previously reported, and added two more to the list. It was noteworthy that the patients had had no cardiac affection previous to the tonsillar attack. Endocarditis supervening, valvular lesions occurred in all, and have remained.

DR. F. J. QUINLAN endorsed the views of the reader of the paper, and dwelt particularly on the aural and cerebral complications that follow tonsillar diseases.

DR. S. S. JONES said that he felt that an explanation of the possible cause for the sudden deaths that followed a simple tonsillar affection had been offered.

DR. MAYER, in closing, said that he was disposed to agree with Dr. Adler with reference to the case he had reported as being myocardial rather than endocardial, not only because of absence of fever, but because of the subsequent cure of this case, for he noted that every one of Dr. Packard's cases still had their valvular lesions, which is so true of endocardial inflammations, and this would also explain the point raised by Dr. Jones

He failed to agree with the suggestion that the trouble was in the nasopharynx, for it was contrary to every observation, and, indeed, it was only possible to view this question from the standpoint of the general practitioner.

He wished to be clearly understood as referring to tonsils subject to disease only, but when these are frequently the seat of disease no simple tonsillotomy was sufficient, but complete extirpation is required.

REVIEWS.

PYORRHEA ALVEOLARIS. By JOHN FITZGERALD, L.D.S., Dental Surgeon to the Italian Hospital and to the National Hospital for Diseases of the Heart and Paralysis, Soho Square, London: The Medical Publishing Co., Limited, 1899.

A COLLECTION of articles previously recorded in the *Clinical Journal* makes up this small brochure. It gives a fairly complete survey of this subject so familiar to the dentist, the importance of which the author endeavors to bring home to the physician by emphasizing its clinical relation to some diseases of the stomach. Its far greater surgical import has been neglected inasmuch as there is no mention of its relationship to inflammation of the inferior maxilla and cervical glandular enlargements. The American literature is extensively quoted.

BACTERIOLOGY IN MEDICINE AND SURGERY. A Practical Manual for Physicians, Health Officers and Students. By WM. HALLOCK PARK, M.D., Associate Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, and Assistant Director of the Research Laboratories of the Department of Health, City of New York. Assisted by A. R. GUERARD, M.D., Assistant Bacteriologist, Department of Health, City of New York. Illustrated with 87 engravings and 2 colored plates. New York and Philadelphia: Lea Brothers & Co., 1899.

WE have seen no work of recent time, which in small compass, has so thoroughly covered every-day practical bacteriology as does this manual of 683 pages with 36 chapters and an appendix. Eighteen of the chapters are concerned with general bacteriology; historical sketch, general morphologic characters, chemical composition, vital phenomena, relation to disease, immunity and its theories, infection, effects of physical agents on bacteria, temperature, chemical agents, practical disinfection of houses, persons, instruments, foods for adults and infants, preparation and technic of staining, cultivation of bacteria and media, animal experimentation, human investigations, bacteriological examination of water and air and the classification of bacteria are the subjects treated in these 18 chapters. The succeeding chapters describe, especially from the hygienic or medical, rather from the more technical bacteriological standpoint, the many important bacteria of disease, the bacillus tuberculosis and its allies, influenza, diphtheria, tetanus, and typhoid bacilli, the baccillus coli communis, the micro-organisms of pneumonia, abscess production, meningitis, anthrax, glanders, bubonic plague, and cholera.

To these there is added an appendix of four chapters in which there is given a brief description of a few representative pathogenic micro-organisms which are not usually grouped with the bacteria. These are actinomycosis, favus and ringworm; the plasmodium of malaria, and other animal parasites, amebæ, the micro-organisms of smallpox and cowpox and a general discussion of hydrophobia. In addition to the ordinary index there is an extremely convenient index of infectious diseases with the bacteria found in them.

For the practical purposes of the doctor this volume will be found extremely useful. The author has escaped the prolixity of superflous compilation on the one hand and the barrenness of direct copying from other text-books on the other and has crystallized in a simple, forceful manner a great amount of his own wide experience. We believe that the book can be heartily commended to those for whom it was written, the student, health-officer, and practitioner.

THE MEDICAL NEWS VISITING LIST FOR 1900. Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year); and Perpetual (undated, for 60 patients weekly per year). New York: Lea Brothers & Co., 1899.

THIS well-known visiting list has appeared. It is, perhaps, a little more attractive than usual, by reason of its alligator-skin cover, which renders it durable as well as enhances its appearance. It includes formulæ, antidotes for poisons, pages for general memoranda, obstetric engagements, deaths, vaccinations and accounts. For the purpose, we know no visiting list which will better suit the purposes of physicians.

THERAPEUTIC HINTS.

Local Massage in Exophthalmic Goiter.—ZABLUDOWSK, of Berlin has been able by means of a system of massage to effect decided amelioration of the chief symptoms of this disease, especially when the goiter was of the soft pulsating variety. He begins by kneading the gland up and down and from side to side, using both hands as if squeezing a sponge. This is well borne if only part of the gland is treated at a time. If the goiter is very sensitive the massage is carried out by one hand, while the other is used to percuss the spine, this procedure having a good effect on the tachycardia. In addition, Zabludowski practises intermittent and vibratory percussion of certain nerves at the most accessible part of their course the pneumogastric, chief trunk of the sympathetic, occipital, cervical, and the intercostal. He recommends, further, passive movements of the whole body, the muscles being weak as a result of poor nutrition. In from four to six weeks marked improvement is evident.

Treatment of Night-sweats of Phthisis by Formaldehyd.—The good results of treatment by this drug seen in cases of hyperidrosis and bromidrosis caused HIRSCHFELD of Berlin to try its action for phthisical sweats. He now recommends it highly. Because of its power of penetrating the skin he uses an alcoholic solution, as follows:

℞ Formaldehyd, forty per cent. } aa. . ℥ ii.
Spiritus abs. }

M. Sig. External use. Apply on a swab.

Only one part of the body is treated at one sitting; the shoulders and arms, for instance, on the first day, the lower extremities on the day following, and the trunk on the third. From 1 to 2½ drams of the solution is used each time. By following this method toxic absorption and excessive irritation of the ocular and respiratory mucous membrane are alike avoided. If, nevertheless, a fit of coughing should be provoked, the application should be made very rapidly and the part covered at once. Cotton wet with spirits of turpentine can be held in front of the nose and mouth of a sensitive patient. The treatment is not painful, only a momentary burning sensation being produced. Newly formed epidermis, excoriations, and mucous surfaces should, of course, be avoided. The effect of the application lasts from five days to a month, as a rule from one to two weeks. The sweats cease meanwhile, and as no injury is caused by the treatment it can be resumed whenever necessary.

Mercurial Ointment for Malignant Pustule.—When situated on an eyelid or lip, for instance, it is very undesirable to treat the pustule by injections, cautery, or excision on account of the deforming cicatrix which would result. REINA (Italy) has in such cases effected perfect cures by applications of mercurial ointment, sometimes first touching the pustule with a few drops of nitric acid. Recovery was rapid and the scar hardly perceptible. He regards the ointment as superior to the cautery or injections of carbolic in its influence on the disease process.

For Psoriasis.—

The following formula is said to be an improvement on that of HELMURICH in regard to consistency, and because, unlike the latter, it does not darken the skin:

℞ Sulohuris sublim. . . . ℥ i
Potassii carb. . . . . ℥ ss
Aq. dest. . . . . ℥ ii
Lanolini anhydr. . . . . ℥ ss
Vaselini . . . . . ℥ ii.

Mix the sulphur with the lanolin. Then add the vaselin. Dissolve the carbonate of potassium in the water and stir the solution, a little at a time, into the ointment.

Pomades Made with Yolk of Egg.—UNNA (Hamburg) recommends this form of pomade, since it dries quickly and forms an adherent covering, and is a veritable base for any of the usual medicaments—ichthyol, sulphur, turpentine, starch, etc., which may be added in the proportion of ten per cent. To prevent decomposition one per cent. balsam of Peru should be added. The pomade is especially serviceable for cases of eczema, acne, and scabies.

℞ Yolk of egg . . . . 2 parts
Olive oil . . . . . 3 parts.

Rub together as if for a mayonnaise.

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ORIGINAL ARTICLES.

SPLENECTOMY, WITH A REPORT OF TWO CASES.

BY J. WESLEY BOVÉE, M.D.,
OF WASHINGTON, D. C.;
CLINICAL PROFESSOR OF GYNECOLOGY IN THE COLUMBIAN UNIVERSITY; GYNECOLOGICAL SURGEON TO THE COLUMBIA AND PROVIDENCE HOSPITALS.

SPLENECTOMY, an operation the early history of which is very much shrouded in doubt, was probably first performed by Zanarelli, a Neapolitan, in 1549. Fioravanti is said to have performed it about the same time, and Viard, a French surgeon, is credited with having done the operation in 1581, and Matthias in 1678. The next two cases are reported as having been done by Ferrerius in 1711, and O'Brien in 1814. Pernet, and a few other medical historians believe O'Brien's operation was the first in which the spleen was extirpated from the living human body. From that time to 1867 reports of a few cases, nearly all resulting fatally, are scattered through medical literature. In this latter year Pean successfully removed an enlarged and cystic spleen, thus really introducing the operation into modern surgery. Since that time it has been frequently performed, the number of operations has run into the hundreds, and the mortality-rate has markedly decreased.

As this organ was until recently very little understood, it has been subjected to much experimentation. Its fickleness as to its existence in certain individuals has still further enhanced its mystery, as has its slow development in early life and its disappearance in adolescence. Martin and a number of other writers have reported absence of the organ without even a splenic artery being given off from the celiac axis, while others have noted its duplication. Thus Cheselden has reported the presence of two to three spleens in three instances, and Albrecht of Vienna reports on at least five hundred spleens which varied in size from that of a pin-head to a walnut. In many of these cases of splenic duplication the structure of the supplementary bodies was demonstrated by the microscope. Numbers of the supplementary spleens are occasionally found in the usual location of the spleen, each being supplied by its branch of the splenic artery, and vein. This is probably due to a lack of development. In this connection the reports of Tedeschi and Masoin, based upon experiments on animals are quite interesting. The former claims that the spleen is reformed after extirpation, and the latter that by breeding from splenectomied rabbits the spleen can be made to congenitally atrophy. A number of cases have been reported in which the spleen was markedly atrophied.

This organ is supposed to be the source of origin of leucocytes and the graveyard of the red blood-cells. Its necessity for the maintenance of life and health, as may be inferred from the above, is clearly disproven by the fact that the lymphatic glands and bone-marrow can take up its work. This compensatory function, however, is not rapidly assumed in all cases. Experimental splenectomy on animals has shown that it occurs more rapidly and with less general disturbance in young animals, and it has been noticed that children have been much less affected by removal of the normal spleen than have adults. Injuries to this organ requiring its removal have been sufficiently frequent to afford opportunities for the positive determination of this fact. Tizzoni, who has demonstrated it, attributes the slowness of this compensation to the slow return from the inertia of the other hematopoietic organs. No characteristic symptoms accompany splenectomy in children, while in adults a serious train of them follows removal of even the normal spleen. In adult man these post-operative symptoms are about as follows: Increased frequency of pulse, fainting attacks with great pallor of the skin, a daily rising temperature, progressive weakness and loss of weight, great anemia, withered and sallow appearance of the face, headache, drowsiness, voracity, thirst, diminished or increased urinary excretion, griping pain in the abdomen and pain and tenderness of the long bones. Certain characteristic changes occur in the blood and an enlargement of the lymphatic glands is seen. These symptoms appear a few days after the operation, are severe for two or three weeks and then slowly disappear.

In children, who practically have none of these symptoms, probably owing to their red bone-marrow at once assuming the splenic functions, hunger is marked and the quantity of urine at first is diminished. In adults there is great thirst and usually increased urinary excretion. The pain and tenderness of the long bones is probably due to the changes going on in the bone-marrow incident to the establishment here of the assumed functions. Experiments on animals have shown that this change be-

gins at the periphery of the medulla and extends progressively inward and consists of the absorption of the fat of the yellow marrow and its replacement by red bone-marrow. Emilianow, from his observations on dogs, suggests that the lymphatic glands assume the functions of the Malpighian corpuscles and that the bone-marrow acts for the remainder of the splenic pulp. Reigner, in 1892, removed a ruptured spleen from a boy fourteen years of age, and later was obliged to amputate the leg of his patient. A careful examination of the bone-marrow of this extremity permitted him to positively demonstrate the changes it had undergone. The griping abdominal pains are said by Ballance and others to be due to enlargement of the lymphatic glands of that region. In Reigner's case a large ventral hernia developed, through which, ten months after splenectomy, he was enabled to feel the enlarged lymphatic glands. Mosler and Tizzoni have demonstrated that in splenectomied dogs the mesenteric glands are enlarged and on section are red with white spots like Malpighian corpuscles. They also report finding throughout the mesentery small rounded masses of lymphoid cells closely resembling spleen tissue. These are probably similar to the many supplementary spleens found in the mesentery in cases where the spleen is absent or extremely diminutive. The blood changes following removal of the normal spleen in the adult man or animal, consist of a rapid diminution in the proportionate number of the red corpuscles and an increase in the number of leucocytes with marked lowering of the percentage of hemoglobin In the course of three or four weeks following operation, a reverse of these changes begins, and in from two to three weeks more the blood shows normal conditions.

Indications for Operations. — Among the conditions recognized as indications for splenectomy are, enlargement of the organ due to paludal, tubercular, or idiopathic causes, malignant disease, axial rotation, wandering of the organ, echinococcus and other cysts, chronic congestion, amyloid disease, and rupture. The operation has been done a number of times for extreme enlargement of this organ incident to leucocytosis, but nearly all resulted fatally. In simple hypertrophy great inconvenience and distress results from the presence of the tumor. Pressure on other organs, dragging on its pedicle, and the extreme sense of weight are the principal reasons for its removal In the malarial form of hypertrophy we find that there exists, in addition to other conditions mentioned, a paludal intoxication that can not be avoided until the growth is removed. This has been demonstrated in a number of cases by blood examinations made before and after operation. The marked rise in number of red cells and corresponding rapid lowering of the number of leucocytes with rise of hemoglobin percentage seem to demonstrate the immediate effect of the operation on the blood conditions, and are in marked contrast to the conditions following removal of the normal spleen. In Hartmann's case the blood estimated the day before operation was as follows: Number of red cells 3,400,000, leucocytes 7000, hemoglobin 100 per cent. Eight days after operation the number of red cells had increased to 3,800,000, the leucocytes had diminished to 4250, and the amount of hemoglobin had fallen to 85 per cent. This shows particularly the marked increase in the number of red cells. Jonnesco and Vanverts were so appreciative of this fact that they recommend splenectomy as a cure for malarial poisoning.

In tubercular enlargement of the spleen the same rules hold good regarding extirpation. The wandering spleen probably appeals most strongly for extirpation. It is by no means easy to understand how this organ, suspended to the diaphragm by peritoneum, to the pancreas by blood vessels and to the stomach by the gastrosplenic omentum could be so far displaced as to reach the pelvis. It is probably due to unusual strain on its pedicle, such as follows parturition, for it nearly always occurs in women who have borne children. The displacement of the organ may cause engorgement, atrophy, or rotation on its axis. The engorgement is usually due to the dependent position of the organ. Atrophy, resulting from its displacement, is also due to interference with its circulation. Such displacement may have a deleterious effect on other organs. Dilatation of the stomach, fermentation of food, and vomiting are common symptoms and jaundice as a result of angulation of the bile ducts is also mentioned. Adhesions to various parts of the intestine may cause intestinal obstruction. The tail of the pancreas being in close proximity to this organ has been incorporated in its pedicle. It has even caused retroflexion of the uterus with prolapse of that organ, and of the vagina and bladder. This condition endangers life through liability to rupture of, or the formation of an abscess in, the spleen, to intestinal obstruction or to rupture of the stomach or the duodenum. In primary malignant disease of the spleen early operation is indicated. But thus far splenectomy for this condition has not proven satisfactory. Hartley found, of six patients operated on, one died immediately after, three recovered from operation but died of recurrence of the disease, and two, in which the tumor was very small, were still alive. In the last two cases operation was evidently performed early. It is very doubtful whether symp-

toms of malignant disease of the spleen will be recognized sufficiently early to allow of extirpation and eradication.

In axial rotation the formation of adhesions to other organs, the danger of infarction, gangrene, and rupture, will call for removal of the organ Infarction usually results from this condition. For cysts of various kinds splenectomy is particularly indicated. The operation of simple puncture of these cysts has a mortality of eighteen per cent , while splenectomy has a death-rate of but seventeen per cent. Rupture of the spleen is one of the most important indications for operation. It is usually due to injury and may occur in the normal or in the diseased organ. In the various hypertrophies we have a strong predisposing cause in the presence of a thin walled tumor filling a considerable portion of the abdominal cavity and protruding to a considerable extent. In some cases the rupture has occurred spontaneously. The great danger in rupture of the spleen is the severe hemorrhage that usually accompanies it, which, while often fatal, does not cause death as often as might be expected. This is probably due to the exceptional coagulability of the blood in the veins of the normal spleen, but in diseased conditions this is not present. In Reigner's case the lower half of the spleen lay loose in the abdominal cavity, and the operation was successfully done the following day. The rhythmical contraction and expansion of the spleen tend to loosen the blood-clots and promote additional hemorrhage, making excision imperative. It is important in rupture of the normal spleen that excision should be done about the second day. In diseased conditions of the organ this rule does not equally apply, as the tendency to hemorrhage is greater, owing to the blood conditions and the larger size of the vessels. At the time of injury severe shock occurs as the result of blow, and the escape of large quantities of blood into the peritoneal cavity. This condition is recognized from the character and locality of the injury, the clinical evidence of internal hemorrhage, the pronounced shock and the large area of dulness in the left flank. The dulness in this region is due to accumulation of blood-clot which does not change its position by change of the patient's position and is considered pathognomonic. It does not occur in intra abdominal hemorrhage from other organs.

Contraindications.—It is probably more important to recognize the conditions which contraindicate splenectomy than to be conversant with those requiring it. When the tumor is extremely large, pressing on the diaphragm, liver, and even the uterus, the prospect of removal of the spleen is exceedingly slight. The size of the organ is somewhat prodigious, reaching thirty to forty pounds in weight. The adhesions formed between the spleen and other organs or structures are sometimes very extensive, and owing to the vascular character of the spleen they are usually liberally supplied with blood-vessels. The traumatism incident to division of such extensive adhesions is very great, and owing to their vascularity severe hemorrhage and very slow progress in the operation are usual. The mortality-rate of splenectomy when such extensive adhesions are present is very much higher than when they are absent. Vanverts found that in 39 cases of enlargement with extensive adhesions, 28 died, while in 35 cases without adhesions only 2 died. Leucocythemia is probably the most dangerous condition that can confront the surgeon in splenectomy. Of over 100 operations with this complicating condition but 3 have been successful, and in these the degree of leucocythemia was very moderate. Warbasse says that when the proportion of white to red blood-cells falls below one to fifty the operation should not be done, and, indeed, we think this proportion is far too low. Profound cachexia is a very strong contraindication to the operation. In short, splenectomy should never be done except under the most favorable circumstances, unless immediate death threatens.

Splenopexia.—This operation has been strongly advocated by Bardenheuer, Stierlin, Rydigier, Hartmann, Tikoff, and Heydenreich. Stierlin would employ it when the organ is not more than three times its normal size. The operation is difficult because of the thinness of the capsule and the great vascularity of the organ. Rydigier places it in an extraperitoneal pocket, formed by splitting the parietal peritoneum transversely and dissecting back an upper and lower flap. He then partly closes over it the peritoneal incision, taking one to three stitches in the gastrosplenic epiploon. Extra stitches are placed if thought necessary. The methods of Bardenheuer and Tikoff are slight modifications of this. It would seem that this operation has a very narrow field of application. If the spleen is entirely normal in every respect its fixation at some point, not necessarily at its normal site, may be done, except when it is floating about in the peritoneal cavity and has formed no adhesions to other structures. In my judgment this is the only class in which the operation is applicable. It must be remembered that this operation requires the opening of the peritoneal cavity as well as splenectomy, and that the spleen is not by any means a necessary organ. Therefore, if it be complicated by a diseased condition or anything else, splenectomy is the preferable operation. Under such circumstances its mortality-

rate would not be higher than that of simple ovariotomy.

Symptoms.—The symptomatology of the various conditions calling for splenectomy is necessarily a symptom complex. Yet the symptoms are nearly always referable to the location of the organ. In great enlargement, interfering with the functions of other organs, the symptoms are not clear as they often emphasize the resulting ailments rather than the splenic condition. A wandering spleen being found in any part of the abdominal cavity and very often adherent to other organs will frequently give rise to symptoms of derangement of the other organs affected by the presence of the spleen. In ruptured spleen the symptoms are of profound shock and internal hemorrhage. These are usually associated with marked dulness in the left side, with a history of injury and perhaps the presence of a tumor in that region. In malarial enlargement a history of malarial intoxication, with or without chills and fever, is procured. Localized pain, mild or severe, is nearly always present and marked cachexia is often noticed. In tubercular spleen the differential symptoms are not always at hand and the same may be said of malignant disease in its early stages.

The condition of the blood is of the greatest importance. Examination of the blood should, if possible, be made before operation a sufficient number of times to determine its exact condition, and whether it indicates that the patient is improving or getting worse. After operation it should also be studied. This will furnish data for the future conduct of the case as well as to determine the prognosis. If the organ is sufficiently diseased to interfere with its function the subsequent blood changes will be much less than when the removed organ is normal in structure. In leucocythemia the blood examination readily demonstrates the condition and upon the microscopical diagnosis alone is placed nearly the entire responsibility of deciding between operation and nonintervention. In malarial enlargement such examination is not to be wholly relied upon, as conclusive evidence of the disease so far as yet known is not always to be found. In a number of cases of malarial poisoning examinations of the peripheral blood failed to demonstrate the cause of the disease, while positive evidence was found in the spleen.

Complications.—An important complication of splenectomy is variation from the normal blood conditions. As before mentioned leucocythemia is the worst complication. Marked anemia and other well known pathologic conditions of the blood are causes of additional mortality in this operation. Extensive adhesions very materially complicate the operation, being very liable to sacrifice the life of the patient. The large size of the organ renders it very hazardous. Disease of other organs, especially of the liver, often give trouble, if indeed they do not sap the life of the patient at the time of operation or later. Pregnancy has in three cases, those or Rakhmanoff, Spencer, Wells and Savor, been present, and in the latter two, births at full term are reported.

Diagnosis.—The diagnosis of a splenic tumor is not usually difficult. No matter how large the tumor may be, unless cystic, the characteristic notch or notches can be felt in the right border of the growth and the larger the tumor the larger and more distinct will be the notch. The consistency of the organ, except in marked pathologic changes, is characteristic of the spleen. Then its position with partial fixation on the left side leave little doubt. Wandering spleen is seldom diagnosed before the abdomen is opened and may be confounded with a uterine fibroid, an ovarian tumor or a movable or enlarged kidney. Rupture of the spleen is easily diagnosed from the symptoms already detailed.

Technic.—But little need be said concerning this to abdominal surgeons. Yet one important point is worthy of mention, and that is the ligation and division of the gastrosplenic ligament before dealing with the large blood-vessels. This materially aids the operator as it loosens the organ, and permits of changes in its position. This is a matter of great convenience in placing ligatures on the vessels and prevents dragging on the diaphragm and on the pedicle of the severed vessels. Every operator emphasizes the necessity of ligating the blood vessels separately and then placing a mass ligature below these on the pedicle. These precautions are to ensure against both primary and secondary hemorrhage. But if the pedicle be dragged on, the danger of loosening the ligatures must be apparent to all, and such dragging is inevitable in all cases of enlarged spleen when normally located, unless this ligament be first divided and the vessels ligated last. The artery should if possible be first ligated to prevent an extra amount of blood being forced into the organ after the return flow is cut off. When we consider the distensibility of the organ and its capacity for blood this matter will not seem of slight importance.

Results.—Hartley collected reports of 126 cases of splenectomy, performed for conditions other than leucocythemia from 1896 to the date of his paper in 1898, with a mortality-rate of 20.5 per cent. I find recorded, since his paper appeared, accounts of 73 cases with 10 deaths, a mortality-rate of 13.7 per cent. Leucocythemia being a condition so absolutely unreconcilable with splenectomy that, not-

withstanding one of mine was of that character, I made no attempt to collect reports of such cases if any are recorded during the past eighteen months. Hartley found that 30 patients with idiopathic hypertrophy had been operated on with a death rate of 10 per cent. To these I add three cases with no deaths bringing the figures to 33 cases with a death-rate of 9 per cent. For malarial enlargement, to his 17 cases with about 13.5 per cent., I add 14 cases with 3 deaths giving a mortality-rate of 16 per cent. For wandering spleen, to his 23 cases with a mortality of 17 per cent., I add two successful cases reducing the death-rate to a flat 16 per cent. To his 4 cases of rotation of the axis of the spleen with one death may be added one successful case, making the mortality 20 per cent. He collected 11 cases of echinococcus and other cysts with 2 deaths. Since then one successful operation has been performed making the mortality to date 16.6 per cent.

No splenectomies have been recorded during the past two years for primary malignant disease of the spleen, a condition which offers very little to be gained from extirpation, as nearly every patient dies, either at the time of operation or subsequently from recurrence. For rupture of the spleen Hartley collected reports of 6 cases with 3 deaths. During the past eighteen months 16 patients have been operated on for this condition with but one death (McBurney's), and in that case rupture of the liver occurred at the same time. A death rate of 6 per cent. for an operation so severe as splenectomy and at such a critical time, speaks enthusiastically for its propriety. For hernia of the spleen 20 cases have been reported during the past two years all of which recovered by splenectomy, a wonderful record of good surgery. For tubercular spleen I find one case recorded that ended successfully as did one of my own. Fourteen cases are to be found in the literature of the past two years in which the diagnosis was not given, and of which 6 died, a mortality of 43 per cent. A careful analysis of these cases would be of interest to determine the causes of the high death-rate. As no blood examination was made in any of them they are of little value, though one must be inclined to believe that leucocythemia and bad adhesions must have been present in a number. Spanton collected statistics of this operation for the three decades immediately preceding 1895 and found that for conditions other than leucocythemia the death-rates for the first ten years was 80 per cent., for the second 45 per cent., and for the third but 20.68 per cent. He collected reports of 21 cases in which the operation had been done for wandering spleen, axis rotation, lymphosarcoma, cystic degeneration, injuries, and other conditions, with one death,—4.8 per cent.

Causes of Death.—The fatal results are nearly always due to shock or hemorrhage. Hemorrhage is extremely liable to occur in splenectomy because of the many vessels of extrordinary size to be divided and the very great difficulty encountered in placing the ligatures. The vessels are often equal in size to the femoral and the spleen is, especially when much enlarged, always in the way of the operator. The depth of the abdominal cavity adds to the difficulty. Shock is produced in these operations by traction on the pedicle, which in turn pulls on the diaphragm and also by the sudden removal of large amounts of blood from the circulation. This has been noticed particularly when the large spleen has been pulled through the abdominal wound. When the tumor is removed the large inelastic veins of the abdomen receive and retain a large proportion of the blood, thus robbing the circulation and causing death. Separation of the many firm adhesions so often found between the spleen and other structures has a powerful tendency to produce both hemorrhage and shock. The general condition of the patient of course very strongly influences the result of the operation. Leucocythemia, for instance, will render the operation almost uniformly fatal. Unrecognized severe pathologic conditions of other organs often determine the fatal result.

The two cases I have to report are as follows:

CASE I.—*Leucocythemia; Weight of Spleen Twelve Pounds and Seven Ounces; Death.*—Mrs. B., white, forty-seven years of age, married and the mother of one child, was admitted to the Columbia Hospital, April 27, 1897. She had suffered one year with an enlargement of the abdomen that had continually increased; her menses had been regular up to two months before admission; a urinalysis revealed considerable pus but this disappeared in about one week after admission. She had a well marked mitral regurgitant murmur which seemed to be well neutralized. A large mass on the left side extended from the pelvis to the sternum and seemed to be attached to the spleen. As the notch could not be felt and pus was present in the urine tubercular kidney was suspected. There were, however, three slight serrations along the right margin and the diagnosis was not made before operation. The uterus was considerably enlarged and well to the left, and the left appendage was low and matted. On May 10th, abdominal section was made and the tumor proved to be a spleen. This diagnosis was made, however, upon operation just before making the abdominal incision. It was slightly adherent and very large; it was carefully ligated off when its upper end was found to materially press against the diaphragm just below the heart. No blood was lost. As soon as this pressure was removed by pulling away the spleen the heart immediately stopped and a few seconds later respiration ceased and could not be aroused An autopsy made

a few hours later revealed a large pus tube on the right side and the left appendage bound down by adhesions; the liver was about twice its normal size; the heart was hypertrophied with shortened mitral valve. One flap was adherent allowing a distinct separation between the closed flaps; the pericardium contained several ounces of fluid and the coronary arteries were hard, and showed here and there calcareous deposits. Both lungs were large and congested, especially the left. The right kidney was normal and the left contained a small amount of pus. The spleen weighed twelve pounds and seven ounces. A previous blood examination by Dr. Carroll showed the condition to be one of fairly marked leucocythemia.

CASE II.—*Tubercular Peritonitis and Perisplenitis with Movable Spleen; Recovery.*—Mrs. W., white, fifty-five years of age, was seen with Dr. Chamberlin in January, 1898. For fifteen years she had had continual pain through the abdomen and chest and an abdominal tumor which she thought was a spleen. Her last confinement was at the age of thirty-six years and her last menstruation at forty. The abdominal pain had been markedly worse during the past two weeks. Upon examination the abdomen was found to be very tender, and a mass in the region of the kidney was found also to be very tender. In this case the notch was easily felt and the diagnosis of an enlarged and movable spleen was made. She was sent to Columbia Hospital, where on February 7th the tumor was removed. When the abdomen was opened a considerable amount of fluid escaped revealing tubercular peritonitis. There were no adhesions to any organ except the spleen, which was found to be the seat of the tumor and was considerably enlarged and studded on its surface with tubercles. It was removed without hemorrhage and the abdominal cavity irrigated with normal salt solution. The tubercular process was found to extend over the whole of the peritoneum and gauze drainage of the cavity was employed. With the exception of some of the usual symptoms of splenectomy she made a good recovery. Some months later, however, I learned she had developed pulmonary tuberculosis and I presume she has since died. Dr. Carroll reported as follows on the condition of the spleen: Weight, twenty-eight ounces; a microscopical examination of a portion of the spleen shows a chronic indurative splenitis with a chronic perisplenitis. The organ is engorged with blood and there is a general hyperplasia of its structure, involving both the elements of the follicles and the pulp. Many of the follicles show central areas of degeneration or necrosis, such as often appear in cases of bacterial infection, but no bacteria could be found in an examination of several sections stained with methylene blue and eosin. The tissues showed none of the pigmentation that goes with infection by the malarial parasite. Many of the vessels show a slight hyaline degeneration of their walls, probably an early senile change. The perisplenitis is well marked, the capsule is very much thickened and shows a few dense, fibrous nodular elevations upon its surface, and, in addition, an exudate that is undergoing organization.

THE PATHOLOGY AND TREATMENT OF WHITE SWELLING OF THE KNEE.[1]

BY A. B. JUDSON, M.D.,
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PATHOLOGY, or knowledge concerning disease, may be said to be the prime requisite of the physician. It often stands higher in public estimation than the ability to cure. In the case of a patient whose symptoms are equivocal, for whom advice is sought in different directions, the physician who is in attendance when the nature of the disease finally declares itself has undisputed control. As knowledge goes before opinion, advice, prescription or operation, pathology should take the precedence in our medical studies. But how changeful is our Pathology! How fickle a divinity! It is said that the average life of a pathological doctrine is about 30 years. We learn, but with the prospect of having to unlearn; and the all-wise, unwise, public senses this and goes doubtfully away, "trembling, hoping, lingering, flying," to fanes where the divinities are not only fickle but meretricious.

In the consideration of the present subject, however, we are in a field where pathology and therapeutics have some of the stability of an exact science. It is a settled pathological doctrine that inflammation is prolonged by the exercise of the affected part. White swelling of the knee goes from bad to worse as long as the patient continues to subject the joint to the weight of the body when standing and the severe traumatism attending walking and running. It is surmised, and with good reason, that the foci in which are started the flames of articular osteitis, appear also at times in the bones of the upper extremity, but these being exempt from the forced drafts of traumatism which attend the machinery of locomotion, are in due time resolved and are thus but rarely recognized. The almost entire absence of shoulder disease, white swelling of the elbow and pulpy disease of the wrist is to be explained in this manner.

Based on this pathology is the positive prescription; give cessation of function to the inflamed bone and joint of the knee by arresting the double function of motion and weight-bearing. I am accustomed to do this in a certain way. To arrest motion a posterior upright is employed which extends sufficiently far above and below the knee to give an efficient leverage. It is padded at its ends to make comfortable counter pressure from behind forwards

[1] Read before the Orthopedic Section of the New York Academy of Medicine, October 20, 1899.

at the upper part of the thigh and the lower part of the leg, and it carries two cross-pieces, each half surrounding the limb, but not touching it, with four buckles at the ends of the cross-pieces in which are adjusted the two padded straps crossing the front of the limb to make pressure from before, backwards, above and below, and near the knee. This fixative brace is worn day and night.

To arrest the weight-bearing function the ischiatic crutch is used. This is worn only when the patient is up. It may be said to put the limb to bed while the patient runs about. It is applied with a high sole on the foot of the unaffected side. A point requiring especial attention in the adjustment of this crutch is the length of the seat strap. If, on the one hand, this padded strap is too long it allows the pelvic band to take too high a level whereby it makes uncomfortable pressure on the anterior superior iliac spine. If, on the other hand, the strap is too short it holds the pelvic band at too low a level, thus causing painful pressure on the pubes.

In a case in which the knee is unduly flexed the fixative brace may be used to correct the deformity, by taking advantage of the tractable quality of the steel, the knee and the brace having imparted to them, first one and then the other, an additional modicum of extension, or straightening. This is accomplished by buckling the pressure straps tighter and straightening the brace by the use of the vise and monkey-wrench.

Each case will be found to have its own peculiarities and contingencies and troublesome details which will have to be met individually. In general the success of mechanical treatment depends very much on the cooperation of the patient or, in the case of children, on that of the parent or other immediate attendant. It is often not out of place to say to the mother that the brace is to be worn not only on the child's limb but in her head.

The difficulty of securing proper attention at home to the details of treatment will generally be found to be the true explanation of failure to secure the best results. It is seen in some patients, who for this reason have failed to secure the best results, that the deficiencies occur chiefly in the line of efforts to secure final straightness of the limb. This is no trivial defect, because a knee ankylosed at a considerable angle is a source of lameness and disability. But as the prevention and the correction of flexion of the knee lie well within the power of so simple a mechanical device as a lever properly applied, a serious degree of flexion cannot become a feature of the result in a case in which medical attendance is rightly seconded by good management at home.

CASE I. *Incipient.*—A girl aged six years eight months was brought in on September 15, 1899, with a slight lameness in the right knee without pain. This had been noticed for about five weeks. In walking she accentuated the action of the left foot in order to throw the weight of the body on that limb rather than on the affected one. The left thigh four inches above the patella measured 11 inches, knee 9 inches, leg 8 3/8 inches; the right 10 3/8—9 3/8. The knee flexes 20°—170°. Manual attempts at further extension develop marked reflex. The patient illustrates the ease and convenience with which the ischiatic crutch, which was applied September 20, 1899, is worn. Extension of this knee could easily be made in a short time by the use of the fixative brace, which has not yet been applied. It will be of interest to note whether relieving the limb from the weight of the body will not of itself, without fixing the joint, lead in time to resolution with restoration of normal motion.

CASE II. *Complicated with Pott's Disease. Flexion Reduced.*—A boy four years of age had been lame in the left knee for one year. Flexion 20°—125.° A crutch was applied November 19, 1897, and fixative brace on February 7, 1898. Pott's disease appeared in the lumbar region and a spinal brace was applied December 12, 1898. Prognosis good. The knee is at 2°, practically straight. The three braces are easily and comfortably worn. The advantage of holding the pelvic band of the ischiatic crutch down to its proper level by a short seatstrap is emphasized in this case by the ample room which is thus left for the efficient application of a spinal brace.

CASE III. *Flexion Reduced. Absorption of Abscess.*—The patient, a five-year-old girl, came for treatment for the right knee, which had been lame for four years, January 18, 1897. Moderate subluxation. Flexion 55°—125°. Abscess attended by severe pain appeared at the outer and anterior side of the knee. The ischiatic crutch was applied March 5 and a fixative brace March 9, 1897. The apparatus is still worn. Prognosis good. The abscess has been nearly absorbed, and the knee is flexed 6°. Subluxation persists, but the femur is so far superimposed over the tibia that the stability of the limb will not be compromised.

CASE IV. *Flexion Reduced. Many Abscesses.*—A boy, aged one year and nine months was brought on August 26, 1895, with lameness of the left knee which had lasted a few weeks. Knee at 90°. A year later when he was again seen it was far advanced in destructive osteitis. Numerous sinuses on all sides of the knee; subluxation; general condition low. The fixative brace was applied with relief of the symptoms. Six months later the ischiatic crutch was applied. With this apparatus in place, the patient was at once active on his feet. The discharge is now moderate in quantity and some of the sinuses have cicatrized. The general health is good and prognosis favorable. The apparatus is still worn. The knee is at 10°; moderate subluxation. Frequent long absences, one of them for sixteen

months and two for seven months each, have marked the history of this case and have doubtless delayed recovery. In these intervals it is probable that the anxious mother consulted other authorities and the question of excision was probably duly considered. If the child's general condition was good at the time it might have been said, either that it was safe to continue to rely on mechanical treatment, or that excision would be well borne and should be done to hasten recovery. If, on the other hand, the general condition was bad, as it was at times in the extreme, it might have been said either that excision was necessary to save life or that the chances of recovery were not good enough to permit a resort to operative intervention. The present condition, however, gives good ground for confident expectation that the final result will be combined straightness, length and stability of limb in greater degree than may be looked for after excision.

CASE V. *Abscesses. Recurrence of Flexion after Recovery.*—A girl three years and four months of age had been lame for six months in the left knee. Marked flexion. Left knee $8\frac{7}{8}$; right knee $7\frac{7}{8}$ inches. On January 24, 1889, the fixative brace was applied and three months later the flexion was entirely reduced. The ischiatic crutch was applied March 18, 1889. In August, 1889, and June, 1890, sinuses appeared which were finally cicatrized in August 1890. In July, 1892, a third abscess opened and two months later had finally closed. In October, 1894, motion was between hyperextension 5° and flexion 30° and treatment was suspended. In October, 1898, there had been no symptoms, but the knee was flexed with motion between 28° and 48°. The fixative brace was re-applied, against the patient's will, and flexion has been reduced to 10°, with good prospect of complete reduction. No subluxation. She now prefers to retain the brace and would not mind wearing it always, feeling that it adds greatly to her ability to walk and run. This will probably not be necessary. When the bones are mature their articulating surfaces will adapt themselves to each other so that the femur will rest securely on the tibia in the straight position.

CASE VI. *Deformity after Incision. Not Reduced.*—A girl ten years of age had suffered with the left knee for three years. Two operations for tuberculosis of the knee had been performed in general hospitals. The articulating surfaces had been sawn off and the knee was practically motionless at 35° of flexion. The fixative brace was applied for the correction of the deformity in March, 1896. It is still worn. The knee was at one time at 20°. It is now at 30°. The brace has been worn constantly, and the patient's attendance at the dispensary has been regular, but the prospects are that the flexion will be a permanent disability. It has been impossible to inspire the patient or her parents with confidence in the efficacy of mechanical means. The case illustrates what has been said about the way in which medical attention may be thwarted by a failure to secure cooperation in the patient's home.

CASE VII. *Deformity after Operation. Reduction.*—A three-year-old girl, lame in the left knee, was brought August 2, 1895. Flexion at 22°. The fixative brace was applied August 9, 1895. The flexion has been completely reduced, but has been permitted to return. It is now 12°. The patient is likely, however, to have a straight limb, as the ankylosis is not very firm and the child, with good parental care, is approaching an age when she will, as happened in Case V., take a personal interest in her own case.

CASE VIII.—Boy, aged seven years and six months, lame for eighteen months in the right knee; the fixative brace was applied January 24, and the ischiatic crutch January 27, 1893. The patient was presented to the Orthopedic Section on April 20, 1894. The crutch was discontinued in September, 1896, and the fixative brace in January, 1897. The knee now flexes 8°—75° and imparts no defect to his ordinary walking gait.

CASE IX. *Reduction of Flexion of Ten-Years' Standing.*—A boy fourteen years of age, had been lame from infancy in the left knee. Beyond the swelling and limitation of motion there had been but little trouble for ten years. Flexion 25°—55°. The fixative brace was applied to straighten the knee March 23, 1891. In March, 1893, the knee was straight and in July, 1894, it was hyperextended 10°. The brace was removed in January, 1896. At present flexion is 0°—20°, a result largely due to his intelligent interest in the progress of his own case.

CASE X. *Recurrence of Flexion. Abscesses.*—A boy of eight years had for four years suffered with his right knee. Marked subluxation. Flexion 30°—80°. Sinuses. In March, 1885, the Thomas splint for protecting the limb from the weight of the body, and a fixative brace were applied. The patient was presented to the Orthopedic Section on March 19, 1886. On January 8, 1887, the ischiatic crutch was applied in place of the Thomas splint. The knee was straightened and at one time was hyperextended 2°. The sinuses closed. At present the flexion is at 25° with marked subluxation and very little motion, a result due partly to the late stage at which treatment was begun and in large measure to a failure, too often encountered, to obtain thorough cooperation.

CASE XI. *Mild Case. Abscesses. Result 20 Years after Treatment.*—A boy six years of age had had for five months, swelling, pain, and limited motion of the left knee; on May 7th a Thomas splint and on May 13, 1878, a fixative brace were applied. In the following summer a sinus appeared and the abscess discharged for four months Several pieces of cancellous bone were extruded, one of them being evidently a fragment from the surface underlying the articular surface of a femoral condyle. The fixative brace was removed in February and the Thomas splint in April, 1879. There was ¾ of an inch lengthening and recovery with normal motion and locomotor ability. As the patient was traveling he could not be present at the meeting. Inspection, however, would have revealed nothing objective,

except a depressed scar, 1½ x 1, attached to the inner condyle. He says that when being measured for clothes the limb is a ¼ of an inch longer than the unaffected one. There were exceptional reasons for expecting a good result in this case. Among them was the probability that tne affection was of a comparatively mild character. It was not the typical insidious osteitic invasion, after which we may, as a rule, be glad to secure a strong, straight and useful limb, albeit motion may be limited or absent from the joint.

CLINICAL MEMORANDUM.

A BRIEF REPORT OF AN EPIDEMIC OF TYPHOID FEVER IN WORTHVILLE, N. C., DURING 1898.

BY CHARLES C. HUBBARD, MD.,
OF WORTHVILLE, N. C.

THIS is a factory village of three hundred and fifty inhabitants, situated on Deep River. The town has been built about seventeen years. There are forty houses belonging to the factory company, and about thirty others within a radius of half a mile from the center of the village. The forty houses are supplied with water from nine wells. One of these has never, or at least not lately, been much used by the families for drinking purposes. Durthe past year four of these went dry, and the forty families used water from the other five, one of which I shall speak of more fully later.

Osler, in the last edition of his text-book says that "outbreaks of typhoid fever are more likely to occur in extremely hot and dry seasons when the water-supply is very low," giving as a reason the more complete drainage of the soil, which carries the germ into the water-supply, and from thence into the alimentary canal of those who drink it.

We believe this for we had had just such a season. If there are 10,000 germs of typhoid in a well which contains two feet of water, it is reasonable to suppose that the man who takes a drink of this water is more liable to contract the disease than he who drinks from a well containing ten feet of water and the same number of germs.

The water-supply of this immediate section had been extremely low during the previous eighteen months, necessitating the sinking of wells deeper in sixteen instances within a radius of less than a mile, although there have been only five cases of typhoid fever outside of the families supplied with water from the nine wells mentioned. These cases were:

(1) That of a boy aged three years living near the village; (2) that of a girl twelve years old, living near the edge, and above the town proper. This was a case of "walking typhoid" and she was in bed only part of the time; (3) that of my own little girl four and a half years old, who, when attending Sunday-school drank water repeatedly from the well which was afterward found to be contaminated. My own well had to be sunk deeper, so this is not conclusive, though there has never before been a case of typhoid fever among those using water from this well; (4) that of myself, which occurred late in the season, the fever having been contracted after treating 46 cases; and during the treatment of these cases I was often obliged to eat and drink at the homes of my patients; (5) that of the fourteen-year-old daughter of the superintendent of the factory, whose well is in a direct line 135 feet below the privies of two families in one of which the first case of typhoid fever occurred. No other member of his family had typhoid.

The five wells which did not go dry were the principal water-supply of the forty families before mentioned. For several weeks the water in two of these was so low that when a bucketful was drawn up it had to be set down for a few minutes to allow the mud to settle before the water was poured off. There was such a scarcity of water that the town commissioners passed an ordinance prohibiting the use of the water for any purpose except cooking and drinking. The well from which the first six cases started is located in a block 250 feet long by 190 broad, containing six dwellings, five privies, four wood piles, one wood house, one chicken-lot and coop, and stamping-ground for one cow and one horse in daytime. In the same block there is a well not used for drinking purposes. Within 115 feet of the infected well are five privies, the nearest of which is 80 feet. Into the one 100 feet away were thrown, the year before, the undisinfected discharges of a typhoid patient. Just across the street 50 feet from this well, there was a case of typhoid the year before, the discharges from which were thrown into a ditch less than 10 feet from the well. I was not living here at the time, but have this information on good authority. Just across the street from this same well, at distances of 100 and 160 feet respectively, are four more privies, the drainage of which leads directly from the well. During the spring and summer the water from this well contained much mud and trash, and had a bad taste and odor, yet the families continued to use it for drinking and cooking. When the well was dug deeper, about one foot of mud, with rocks, sticks, and trash, was removed, also timbers which had been placed behind the wall fourteen years ago to prevent caving. Planks an inch and a half thick were thoroughly rotten and timber four by four inches could be torn into shreds. After the wall was replaced the water was drawn off twice, after which it appeared to the naked eye, to be pure, but on examination by the bacteriologist of the State Board of Health showed over 4000 bacteria to the c.c., some of which were intestinal bacilli. Since this examination the water has not been used for any purpose. Four months later a professor of bacteriology in one of our State colleges examined samples of this water with similar results.

Thirty-two cases of typhoid have occurred in the families using water from this well, three of which proved fatal. A young married woman, aged nineteen, living in the country, visited her sick mother living in the town three or four times, staying all night once or twice; soon after her visit she had a severe attack of the disease. Her people used water from this well. Her child, two and a half months old, continued to nurse from her for about a week after she was taken sick, and three weeks

later it was taken with fever; dry tongue, enlarged spleen, tympanites, and characteristic stools.

Another married woman, aged twenty-three, also living in the country, but on the opposite side of the town from the above case, stayed for several days at her fathers, whose house is within fifty feet of this well, and from which he derived his water-supply. She had a long, tedious attack of typhoid fever.

These two additional cases, which seem to have started from this well, make thirty-four cases which originated from this source. This does not include seven or eight cases which resembled typhoid closely but which were not well-defined examples of the disease.

The total census of the families in which the thirty-two cases in town occurred is sixty-nine, thus, nearly one-half were affected. This number, sixty-nine, includes all the members of all the families who used water from this well. In the whole town there were sixty-three pure cases with a death-rate of about 10 per cent., besides several suspicious ones. Thus we see only thirty-one cases have occurred whose origin is unknown. Five of the thirty-one drank water frequently from the infected well and it is reasonable to infer that at least forty cases originated from this single source of contagion. Eighteen of the sixty-three were under twelve years of age.

MEDICAL PROGRESS.

Pancreatic Hemorrhage and Pancreatic Cysts.—ANDERS (*Jour. Amer. Med. Assoc.*, December 2, 1899) has made an exhaustive study of pancreatic hemorrhage and has presented the reports of forty cases in tabular form. Twenty-five of these occurred in the male and nine in the female sex, while in some instances the sex of the patient is not mentioned. Nearly one-half of the patients were between forty and fifty years of age. While pancreatic hemorrhage as an immediate cause of death must be admitted to be rare, it is still of greater clinical and medico-legal importance than most persons suppose. Death in most of the instances mentioned occurred in a few hours. Life was rarely prolonged as much as three days. The direct cause of death is not always obvious. For instance, patients have died in a few hours when the loss of blood did not amount to more than eight ounces. Such deaths are due apparently to shock.

MCARTHUR (*ibid.*) contributes an article on pancreatic cysts, having been able to collect and tabulate the reports of 104 cases in which patients submitted to operation. Such cysts are best classified according to their walls and are either retention cysts, cystosarcomata, or adenocystomata. The retention cysts are the most important clinically. They are similar in origin to the ranulæ which occur in the mouth. The duct or some branch of it may become obstructed as a result of traumatism or by stone, or, possibly, by a blood-clot. The easiest operative treatment is known as the "two-step" drainage plan. By this means convalescence is prolonged and there is a possibility of a fistula being left, but the danger from shock and hemorrhage is less than when the cyst is extirpated. If a pancreatic cyst is suspected to be other than a simple retention cyst, extirpation should be performed if possible in order to prevent malignant recurrence.

Aortic Valve Disease.—THEODORE FISHER (*Edinburgh Medical Journal*, November, 1899), in a short and practical article on the morbid anatomy of the aortic valves, brings out a few points of general interest. He distinguishes two main forms of chronic disease of this valve in adults. In one the disease is associated with disease of the aorta, and in the other the aorta is almost invariably healthy. In one the aortic segments are thickened and deformed on account of an increase in the fibrous connective tissue, but calcareous changes are absent; in the other there is little or no fibrous tissue, but great deformity due to calcareous deposit. In one, again, the disease seems to be an extension from the aorta; in the other it appears to arise primarily in the segments of the aortic valve. One disease usually produces aortic regurgitation, unassociated with any stenosis; but the other almost invariably produces stenosis, which is not infrequently uncomplicated by regurgitation. The etiology of these types of disease is obscure. Aortitis is probably the initial disease in the first type. Whether this aortitis is of syphilitic origin or not, there seems to be but one opinion, and that is positive, but syphilis alone is not the only responsible factor.

The etiology of the calcareous form is still undecided. Although text-books ascribe to syphilis, gout, alcoholism, and Bright's important etiologic relations to this disease, Fisher believes that such conclusions rest on very unsatisfactory data. He attaches considerable importance to mechanical strain.

Bacteriology of Typhus Fever.—ANDREW BALFOUR and CHARLES PORTER (*Edinburgh Med. Jour.*, December, 1899) fill out a preliminary series of investigation contributed to this same journal in February, 1899. The studies were made upon forty-three cases of typhus fever, both in the acute and convalescent stages, from the wards of the Edinburgh City Hospital, the Convalescent Home at Musselbourgh, the Leith Public Health Hospital, and the Dundee Hospital for Infectious Diseases. In addition, the blood from 20 quarantine cases of typhus, 46 cases of typhoid fever, 21 cases of scarlet fever, and 2 of measles was examined. A large number of bacteriologic and microscopic blood examinations was made from persons suffering from other ailments and from normal healthy individuals. In all, some 220 blood examinations were made. A large number of post-mortem investigations was also made. Especial attention was given to the bacteria known to be normally present in the deeper layers of the skin, since the method of collecting the blood by simple puncture of the skin was practised.

In thirty-six of the forty-three cases of positive typhus (eighty-eight per cent.) a diplococcus was found. It was non-capsulated, non-motile, and did not possess flagella, though it showed a marked oscillatory movement, and could be seen to turn over frequently. It stained well with the ordinary stains, and retained Gram's stain. Facultative anerobe. It produced a cloudiness in broth, a white cement-like streak in agar and on blood-serum; its

growth on potato is not distinctive. Gelatin is liquified. It does not produce gas in glucose broth. Milk is coagulated in forty-eight hours, and an acid reaction in lithmus broth is evident in one day. The most favorable temperature for growth is 37° C.

In eight of nine post-mortem examinations on typhus fever patients this organism was obtained in pure culture, but in none of their examinations of the bodies of those dying from other disease was this organism found.

The diplococcus here described resembles in most of its details that found by Dubief and Bruhl, who in 1893 made a thorough study of typhus in an outbreak of the disease in the Parisian prisons. These observers, however, never succeeded in cultivating the organism from fresh blood.

Animal experiment was not altogether satisfactory, though the organism derived at autopsy was markedly pathogenic, producing in animals symptoms and post-mortem appearances closely resembling those of a continued fever.

Municipal Control of Prostitution.—DYER (*New Orleans Med. and Surg. Jour.*, December, 1899) has taken the trouble to look up the municipal control of prostitution in a number of large American cities, and finds that:

1. There is at present almost universal absence of active regulations governing prostitution in most of the cities and States of the United States; the houses of prostitution and their inmates are recorded by the police in some cities, but even then the records are incomplete; no information is kept by the authorities upon the question of venereal diseases among the prostitute class.

2. The absence of statistics and the lack of provisions for determining and recording and treating venereal diseases in this class in large degree create the general indifference to existing conditions.

3. While the health authorities are busied with the study of other contagious diseases, such as diphtheria, scarlet fever, variola, and the like, the venereal diseases are not even considered, although their occurrence is really greater in proportion to population than most of the diseases studied by them.

In order to accomplish reform he believes that it is essential to recognize prostitution and license it so long as laws are made differently for men and women. If no restriction is put upon the male sexualist who seeks women, no *criminal* restriction should be put upon the woman whom he seeks. If the prostitutes are licensed a police record can be kept of their residences, state of health, etc., and a regular police inspection of their homes and public resorts can be made. Dyer is opposed to a police examination of the women themselves, believing that better results could be obtained from a voluntary examination in a more private manner by regularly appointed physicians. Physicians should also be encouraged to report on blanks furnished by the city cases of venereal disease occurring in their practice.

A Modified Vaginal Fixation for Cystocele and Prolapse of the Uterus.—WATKINS (*Amer. Gyn. and Obstet. Jour.*, November, 1899) describes a modified vaginal fixation which he has employed in cases of uterine prolapse and cystocele after the menopause. It differs from the usual vaginal fixation in that enough of the anterior vaginal wall is excised to obliterate the cystocele, after the sutures are inserted and tied; in suturing the anterior vaginal wall to the broad ligament, and in incising the posterior vaginal wall and suturing the cervix so as to hold it in about its normal position. The sutures employed are silkworm gut. They should be removed at the end of four weeks. The operation is not advised by the author in cases in which the patient is still in the child-bearing period, but in difficult cases of uterine prolapse, occurring after the menopause as a result in part of senile atrophy, the operation is one which if well performed will yield a perfect result.

The Contagiousness of Inherited Syphilis.—KOLIPINSKI (*Maryland Med. Jour.*, November 25, 1899) narrates the histories of two cases which strikingly illustrate the contagiousness of inherited syphilis, a matter which has recently been questioned by Simes in an article which appeared in the *Philadelphia Medical Journal*, October 21, 1899. A maternal grandmother, over sixty years of age, cared for her grandchild who suffered from coryza and sore mouth of a syphilitic character. She had a habit of wiping the child's mouth out with her finger although warned that this was a dangerous procedure. Soon the initial lesion of the disease appeared on the dorsal surface of her index finger near the tip, and later she presented the ordinary symptoms of the secondary stage. The second history quoted tells how a paternal grandmother who took care of a syphilitic infant developed a primary sore on the palmar surface of the right ring-finger. Her son, a boy of seventeen years, had a habit of opening the clogged rubber nipple of the nursing-bottle by sucking it. When first seen he presented the lesions of the secondary stage of syphilis. No primary scar could be found upon him either in the mouth or upon the genitals, but the initial lesion was doubtless extra-genital.

Sulphate of Magnesium in the Treatment of Dysentery.—ROUGET (*Brit. Med. Jour.*, November 18, 1899) has employed the sulphate of magnesium in the treatment of tropical dysentery as recommended by Wyatt-Smith. The drug was administered in doses of 1½ drams to 2 drams, combined with 10 minims of aromatic sulphuric acid in syrup and cinnamon water. The dysenteric stools entirely disappeared in from eighteen to thirty-six hours. Soft, yellowish feces were passed for a time and in a few days the cure was complete. During convalescence, a powder containing salicylate of bismuth, grs. 15; benzol-naphthol, grs. 10, with the addition sometimes of Dover's powder, grs. 3, was given three times a day. The patients were kept on an absolute milk diet. If the treatment by sulphate of magnesium was discontinued too soon, or if the patient returned to an improper diet, such as rice and curry (the tests were made in India) a relapse followed. The advantages of this method of treatment are strikingly set forth in a table which shows that under the treatment formerly employed by Rouget, forty-one pa-

tients suffering from dysentery were given ipecacuanha, bismuth salicylate, salol, or opium. Of these three died, thirty-one recovered, and eight were unimproved. Of fifty-six treated by magnesium sulphate, none died, fifty-four recovered, and two were discharged improved. Magnesium sulphate does not seem to be of much value in chronic dysentery. The two cases marked "improved" in the table were of a chronic character.

Relapsed Clubfoot.—TAYLOR (*Maryland Med. Jour.*, December 2, 1899) says that in all cases of true congenital talipes equino-varus, if the foot is not mechanically fixed in an over-corrected position after operation so that it can be walked on, it will relapse into just as bad if not a worse position than before operation. He mentions three such cases. The patients had had tenotomy done in infancy and wore plaster-of-Paris casts for a month or more, and within six months or a year they were worse than before, so that a simple tenotomy no longer sufficed to correct the deformity. The best surgical relief of talipes equino-varus will be worse than useless if correction is not maintained by a suitable ambulatory brace for months afterward. Such a brace must exercise pressure at three points: (1) at the metatarsal phalangeal articulation of the great toe; (2) at the inner side of the heel, and (3) at the calcaneocuboid articulation on the outer side of the foot. There must be a stop-joint at the ankle to prevent a recurrence of the equinus. The inner side of the brace and shoe must be lower than the outer side to prevent supination of the foot. The author strongly condemns any mutilating operation to the bony frame of the foot, such as removal of the astragalus, these operations being contrary to the best interests of the patient.

Disinfection in Contagious Disease.—WALSH (*The Therapist*, November 15, 1899) after enumerating the difficulties in the way of carrying out perfect fumigation of a room by either sulphurous acid, chlorin, or formic aldehyd vapor, and the impossibility of obtaining absolute disinfection by spraying and washing with disinfectant solutions, and by dusting powders, says that fresh air is perhaps the most important of all natural disinfectants. During the illness, free ventilation is invaluable, while after fumigation the room should be flushed with air for twelve or twenty four hours. During the illness all excreta should be systematically disinfected. This applies not only to the stools but to the sputa of tubercular, pneumonic, and diphtheritic patients, and to all dressings and remnants of food. The last should at once be thrown into the fire. In order to carry out these and other necessary precautions in connection with the clothing and other articles which come in contact with the patient, skilled attention and at least one vacant room in addition to that occupied by the patient are absolutely necessary. It will be seen at once, therefore, that proper disinfection during contagious illness is impossible in the houses of poor, especially in large cities where most cases of contagious disease arise. The author insists therefore on the necessity of suitable infectious hospitals in every sanitary district. When rational and thorough precautionary measures are taken in the homes and hospitals he looks to see a marked decrease in all diseases of a zymotic type.

THERAPEUTIC NOTES.

For Branchopneumonia in Children.—COUTTS of London considers belladonna in large doses to be most helpful in this disease, the dyspnea being relieved, the heart and respiration stimulated, the temperature lowered, and the bronchial secretion favorably affected. He confines his medication to the drug in question, even in severe cases, and does not regard the symptoms which it may produce (redness of the skin, occasionally amounting to a scarlatinal rash, dilatation of the pupils, irritability, slight excitement or delirium) as serious in the majority of cases. He gives ¼ of a grain of the extract every three or four hours, alike to nursing infants and children of six or seven years of age. The dyspnea should be relieved after a few doses, and improvement in the other symptoms then expected.

For Blepharitis Marginalis.—

℞ Antimonii sulph . . . . . 3 ss
Lanolini . . . . . 3 ii
Vaselini flav. . . . . 3 i.

M. Ft. unguentum. Sig. Rub a little on the border of the lid at night. Wash off with warm water and a bit of gauze in the morning.

CARRA has used this ointment with great success in his ophthalmic clinic at Rome, and looks upon it as superior to mercurial or ichthyol preparations. No irritation or even burning sensation follows its application, crust-formation soon ceases, and the eyelashes grow in again very quickly.

Medicinal Treatment of Bubonic Plague.—The following drugs are recommended by H. LORANS, after an extended study of cases treated by various methods. Carbolic acid and bichlorid of mercury both do good service. The former is given in 4 or 5-drop doses in a potion every three or four hours. There is no specific toleration of carbolic acid in plague cases, and the usual indication for ceasing its administration, dark urine, is observed. Patients do, however, show toleration for large doses of sublimate, taking as much as 1½ grains in twenty-four hours without signs of salivation or stomatitis. They improve rapidly under the action of the drug. At the onset 10 grains of calomel, followed by some demulcent preparation, frequently cause the nausea and headache to disappear. Antipyretics are not to be recommended, as they enfeeble the heart and increase the danger of collapse, while having no effect on the temperature. Strophanthus is useful as a heart stimulant. The buboes are best left alone until fluctuation is evident, when incision, etc., is practised as in case of any other abscess. Early incisions or injections are dangerous because of probable infection of the periglandular tissue. Applications of belladonna in glycerin may be used to relieve pain in the glands.

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SATURDAY, DECEMBER 30, 1899.

THE MEDICAL NEWS FOR 1900.

THESE are stirring times in the realm of medical science as well as in the commercial world. Important discoveries are multiplying and each one is rich in suggestion for new lines of investigation. The restless spirit of science is revealing daily more and more of the mystery of disease and the secrets of its cure. The supply of medical literature is constantly on the increase, pressing for immediate publication.

To more fully meet the demands of the times the MEDICAL NEWS will, with the beginning of the new year, be permanently enlarged to forty pages of text and the typographical arrangement of the page will be so modified as to accommodate an increased amount of material without sacrificing legibility.

In its new form, the MEDICAL NEWS will be enabled to publish not only original communications with increased promptness but it will afford space for more complete and more numerous excerpts from our domestic and foreign exchanges. A large and effective staff has been organized to do the work in this department, and our readers may expect the most recent and advanced medical thought from every part of the world, presented with promptness and completeness. Everything of practical or scientific interest will be gathered, boiled down and made ready for prompt assimilation. The department of Echoes and News will also present the latest and most important items of interest.

In order that the profession may become more intimately acquainted with the leaders of medical thought in France and Germany through articles direct from their pens, the MEDICAL NEWS has arranged to publish during the months intervening between the present and the assembling of the International Congress in Paris a number of original articles by prominent men in those countries. Some of these articles are already received and are being translated for publication.

The spirited controversy that has been carried on in our columns during the past year by Sanarelli and his American critics in reference to the bacillus icteroides, while it has helped to crystallize the features of the investigation which have been definitely settled still leaves the supreme question at issue. The interest attached to the subject of yellow fever will call for reports in our columns of further investigations and discoveries as they are made. The report of Agramonte's recently extended investigations in Cuba upon this subject is now in our hands and will be presented at an early day.

The report of the use of the modified yellow-fever antitoxin serum as prepared at the New York Quarantine under Dr. Doty's supervision, is also ready for publication in our columns at an early date. These observations were made at Tampico, Mexico, during the recent invasion of yellow fever there.

These interesting lines of study and the changes which have been outlined cannot fail to commend themselves to our readers, and together we enter upon the new year with pleasurable anticipation.

THE PSYCHOLOGY OF CONVERSION.

IT is a curious thing that men know more of the idiosyncrasies of a vagrant comet that may hit or miss us in its path than they do of the mental personality of their friends and families. The matter of learning men is one of the bases of a successful life, but such knowledge is called "intuitive" or "natural aptitude," or any thing but what it really is, a scientific perception of classified temperaments

and their natural working out in active life. Religious convictions, and especially that religious experience known as conversion, which is a natural accompaniment of adolescence in certain minds with given training, are so essentially an element in social relations that they offer a clue to the mental makeup of the individual. But this fact that might mean so much to the teacher, the physician, and the parent in the development of the mind of a boy or girl is apt to be ignored save from a rather narrow moral standpoint.

Professor George Albert Coe has worked out this idea, and has published results in "A Study in the Dynamics of Personal Religion," which appears in the *Psychological Review*, vol. vi, No. 5, p. 484. He abandons the saints and skips the classic conversions, and comes down to the you-and-me-point of view. A series of careful questions and tests put to some seventy or eighty persons of education and discrimination has revealed that conversion is an experience of temperament and of environment rather than a universal human experience. A critical study shows that striking conversions occur chiefly in those denominations that definitely aim to secure them. There was in all cases a striking corelation between each person's experience and his degree of suggestibility. Those that expected joy, ecstasy, and a sense of forgiveness experienced them, even to the point of hallucinations, in just the proportion they were able to feel such emotions when they were expected in other relations of life; while others equally expectant, but who were in daily life more critical and less suggestible, were disappointed.

The whole gamut of emotional experience in religion, he holds, might easily be prophesied if the factors of temperament and environment were correctly judged.

"Would you cast the horoscope of a human life?" says Fouilleé. "It is not to be read in the constellations of the sky, but in the actions and reactions of the interior astronomical system—do not study the conjunction of the stars, but those of the organs." Similarly Dr. Coe adds: "Would you understand the emotional aspects of religious experience? Do not ascribe them to the inscrutable ways of God, but to ascertainable differences in men's mental constitutions; do not theorize about divine grace, but study he hidden workings of the human mind."

MARRIAGE AND CERTAIN PHYSICAL DEFECTS.

It is sometimes a puzzling question that is presented to the physician when a patient or his friends consult him regarding the advisability of marriage with a person suffering from certain physical defects, and especially regarding the probability of the defects appearing in the next generation. The medical world is not definitely persuaded of the transmission of acquired characteristics. Even the question of heredity in family traits is not always clear.

A very interesting commentary on the questions thus brought up and one that throws light on the practical aspects of the subject is the book called "Marriages among the Deaf in America," by Edward Allen Fay, whose large experience among the deaf and his familiarity with all the aspects of questions relating to them makes him a reliable authority. Statistics show that about seven per cent. of the children born of parents one or both of whom were deaf, are congenitally deaf or become so at a comparatively early age. This is much more frequent than the occurrence of deafness among the general population of the country, so that evidently the physical defect in the parents stands as a determining influence in many cases. An analysis of the statistics shows how that influence is exerted. The marriage of congenitally deaf people who are blood relatives of near degree is especially fruitful in deaf children. The marriage of individuals who have relatives that are deaf, especially when the deafness is congenital or acquired in early life, is much more liable to be followed by the birth of deaf children than if the parents represent isolated cases of deafness in their respective families. Acquirement of deafness when very young seems to be a hereditary trait in some families, and to be due to an irresistive condition of the tissues that make up the auditory apparatus.

The marriage of individuals who are deaf themselves, whether the defect is congenital or acquired, but who have no relatives who are deaf, is not liable to be followed by the birth of deaf children. It is to be noted, however, that the heredity of the defect need not be direct. For instance, the occurrence of deafness in a brother or sister or in an uncle or aunt may signalize the existence of a family

strain or tendency to defective auditory development. The family tendency may skip a generation, too, and the occurrence of deafness may be an atavistic return to the grandparents' condition in the matter of audition. In a word, the carefully compiled and collated statistics confirm certain principles in the matter of conjugation that have been gaining ground of late years. It is not simple consanguinity in marriage that constitutes the danger to the offspring so much as consanguinity with like pathological tendencies. Isolated examples of defect even when congenital are not liable to be perpetuated, while the absence of defect in an individual whose family tendencies are in the line of defect may, nevertheless, result by atavism in defective offspring. It is family traits rather than individual peculiarities that constitute influences in heredity.

ECHOES AND NEWS.

NEW YORK

A Rich Charity Patient.—A charity patient with $212 in his clothing was removed to Bellevue from Roosevelt Hospital on December 20th.

A $40,000 Dormitory on Randall's Island.—Horgan & Slattery, the city architects, have filed plans with the Building Department for a three-story brick, galvanized iron and limestone structure to be erected for the City on Randall's Island at a cost of $40,000. The building will be devoted to sleeping quarters and play-room for children.

Officers of the New York Academy of Medicine.—At the annual meeting held December 21st the following officers were elected for the ensuing year: Vice-president, G. L. Peabody; trustee, A. Jacobi; treasurer for trustees, R. H. Sayre; treasurer, H. L. Collyer; members of the committee on admission, C. E. Nammack, J. B. White (to fill vacancy); member committee on library, Alfred Meyer.

Must Give Records of Patients.—Commissioner of Charities John W. Keller issued an order on December 22d to all charitable institutions in the city, especially to Bellevue Hospital, by which doctors are required to give all desired information regarding patients to clergymen. The order was issued after a conference in the Commissioner's office between the doctors of the Bellevue staff and several priests of the Carmelite Church, which has a chapel in Bellevue.

The Ramapo Water Scheme.—The general subject of water-supply, and especially the Ramapo water scheme, was the subject of discussion at a recent meeting of the City Club of New York. The strongest arraignment of the Ramapo contract was made by Dr. Herman Biggs; he presented a convincing argument showing the necessity of the City owning the water-sheds in which the supply of water is collected. In no other way can the pollution of the source be prevented and disease be kept out of the drinking-water. A private company will concern itself only with its profits.

A Bill for a New York Sanatorium for Consumptives.—Dr. George W. Brush of Brooklyn is chairman of the committee appointed by the State Legislature to investigate the subject of establishing a State hospital in the Adirondacks for the treatment of pulmonary tuberculosis. Dr. Brush will present his report early in the session, and accompany it with a bill providing for an appropriation of $200,000 for the building of the sanatorium. The Governor is to appoint five citizens who shall constitute a board of trustees, to serve for three years. Accommodation is to be furnished in the sanatorium for at least two hundred patients.

Obituary.—Immediately after the stated meeting of the Orthopedic Section of the New York Academy of Medicine, held on December 15, 1899, had been called to order' it was on motion adjourned out of respect to the memory of Dr. Samuel Ketch, and a committee was appointed by the Chair to express the sentiments of the Section.

The committee reported as follows:

The Orthopedic Section of the New York Academy of Medicine desires to express its profound grief at the sudden death of Dr. Samuel Ketch, one of its most useful and honored members.

An original member of the Orthopedic Society, since merged in the Orthopedic Section of the Academy, he served as its secretary in 1889 and as its chairman in 1891, presented several valuable original contributions, and was at all times prominent in everything pertaining to its best interests and progress.

Identified with the practice of orthopedic surgery for nearly twenty-five years, and in every way devoted to the advancement of his chosen work, his life was one of consistent uprightness and honest and successful effort.

[Signed.] HENRY LING TAYLOR, NEWTON M. SHAFFER, REGINALD H. SAYRE. } Committee.

PHILADELPHIA

Health Reports.—The total number of deaths in this city for the week ending December 23d was 419, or a decrease of 34 from those of last week, and of 231 from those of the corresponding week of 1898. Returns of contagious diseases were as follows: diphtheria, 119 new cases, 22 deaths; scarlet fever, 24 new cases, 5 deaths; and enteric fever, 46 new cases, 2 deaths.

Conflict over Evan's Museum.—Differences have arisen between the city of Philadelphia and the executors of the late Dr. Thomas W. Evans, who recently bequeathed to the city an estate valued at over $3,500,000 to establish a free museum and dental institute. A series of protests have been filed by Dr. Evans' heirs to this disposition of his estate, and although rumors of an amicable settlement

between all concerned are being bruited about, those qualified to know state that a lively legal fight must ensue before the matter is definitely settled by the courts.

A Statue of Dr. Pepper.—A statue of the late Dr. William Pepper was formally presented to the University of Pennsylvania on December 20th. It is done in granite, after a design by Leigh Hunt, and was presented to the trustees on behalf of the Pepper Testimonial Committee by Ex-United States Senator Edmunds. The announcement was made that Mrs. Frances Sergeant Pepper, the widow of Dr. Pepper, had given the sum of $50,000 to the University as a fund to carry on the work of the Museum begun by her husband. Provost Charles C. Harrison accepted the statue on behalf of the trustees.

A Black List of Non-paying Patients. — The physicians of West Chester, a near suburb of Philadelphia, are reported to have formed a mutual agreement by which it is proposed to keep a general "black-list" of people who will not pay their doctor's bills. It would seem that West Chester suffers to a great degree from that very common pandemic, the leading symptom of which is disinclination on the part of the individual to remunerate his medical attendant, and that the doctors of this town hereafter agree to refuse medical services to all persons who by their past actions are classed among those able but unwilling to pay just accounts for physicians' attendance.

Philadelphia's Insanitary Schoolhouses. — Dr. Taylor, Medical Inspector, reports that many of the school buildings are positively uncleanly, insufficient ventilation commonly prevails, provisions for lighting and heating are in many instances unsatisfactory and crude, and urinals and closets for the use of the pupils are often found to be wholly inadequate, uncleanly, and sometimes highly repulsive. There are certain paragraphs of the report which encourage the reader in believing that sanitary reform is progressing in the public schools, but as a whole the document is discouraging and demonstrates a sad lack of many requisites upon which the health of the school children largely depend.

Lecture on Eddyism. — The growth which Christian Scientism has obtained in this city was well illustrated one evening this week, by the audience of several thousand persons which crowded fashionable Horticultural Hall, and listened, evidently with rapt attention, for two hours to the remarks of a Judge William G. Ewing of Chicago on "Christian Science: the Religion of Jesus Christ." The creed was defined as a "belief that the true disciples of Jesus Christ, those who have entire faith in His teachings, have the power to do the works that He did, *viz.*, heal the sick, give sight to the blind, make the lame walk; and that they should in accordance with His word, do even greater works than these, and this without the aid of drugs, diet, climatic change, or hypnotic suggestion." and so on to an extent which one would imagine paralyzing to the credulities of ordinarily sane individuals. It may be added that the learned Judge Ewing was foxily careful to avoid direct explanations of his belief, or to touch otherwise than lightly upon the myriad of conflicting points between Eddyism and pathological physiology. Arbitrary statements, dressed in noncommittal phraseology, served his purposes nicely.

Sidewalk Sales of Medicinal Herbs and Plants — At the last meeting of the Pharmaceutical Society of the Philadelphia College of Pharmacy, held December 19th, Dr. Charles H. LaWall gave an interesting and surprising account of the widespread vending of medicinal herbs and the drugs prepared from them by sidewalk merchants and itinerant fakirs, chiefly in the poorer sections of town. The statement was made that in Philadelphia more than 75 per cent. of the efficient drugs in the Pharmacopœia are obtained from herbs growing naturally in the immediately adjacent county, and that more than 50 per cent. of these drugs are offered for sale on the streets throughout the year. The principal venders are the negroes who live in nearby parts of New Jersey, who not only gather the plants and herbs which grow wild in their neighborhood, but elaborately cultivate them in their gardens. In all, out of 69 drugs of the official Pharmacopœia that are indigenous to this vicinity Dr. La Wall found that 47 were being habitually offered for sale by these people. Of the drugs not included as officinal in the Pharmacopœia, 45 were found for sale, besides 45 different kinds of flowers and ferns reputed to possess medicinal virtues.

MISCELLANEOUS

A Case of Plague in England.—The Peninsula and Oriental Line steamer "Ballarat," from Calcutta, arrived at Plymouth, England, December 16th, with a native Indian fireman on board suffering from the bubonic plague.

"Osteopaths" Not Wanted in Georgia.—Governor Candler, after a conference with many physicians, vetoed on December 21st a bill which had been passed by both houses of the General Assembly, providing for the practice of osteopathy in the State of Georgia. The veto was based on the fact that "osteopaths" know nothing of materia medica, while they would have been given the right by the terms of the bill to prescribe medicine the same as any regular licensed physician.

Scarcity of Military Hospitals in England.—The Government has ordered the Military Convalescent Hospital at Devonport to prepare 150 beds for the next detachment which is expected shortly. Owing to the inadequate supply of Government hospitals various convalescent homes and sanatoria in different parts of England, but especially along the south coast, have generously placed wards and in some cases their entire accommodations at the disposal of the Government for the returning wounded and invalided.

Return of the Sick and Wounded Soldiers to England.—The first detachment of wounded and invalid soldiers from South Africa came up the Thames a few days ago, most of the men declaring themselves almost well again

after their voyage and eager to get back to the Cape. By the odd perversity which often marks human affairs, almost the only serious cases were a few of dysentery and the results of accidents, nearly all the wounded, suffering from what are generally regarded as the real and chief risks of war, being in a rapidly convalescent condition.

The Hospital Ship "Maine."—The American hospital ship, having received every honor and compliment which could be showered upon it, from a most handsomely appreciative cartoon in *Punch* to a reception by the Queen, finished its blaze of glory by a grand theatrical benefit presided over by the Prince and Princess of Wales (the proceeds were divided between the two now famous ships) and sailed for Capetown December 23d. Such was the tremendous rush for tickets *at five dollars each*, to view the "Maine" on the Sunday before she started that the committee had to use the newspapers to acknowledge the receipt of the checks and assure applicants that their tickets would be sent in due time.

LITERARY NOTES.

WASHINGTON'S DEATH AND HIS DOCTORS.

IN the December number of *Lippincott's Magazine* Dr. Solomon Solis Cohen discusses this interesting question, so timely just now, as it is exactly one hundred years since Washington's death occurred. The author of a recent work on Washington which has attracted a good deal of attention, says: "There can be scarcely a doubt that the treatment of Washington's last illness by the doctors was little short of murder." Dr. Cohen takes up the task of showing that this blunt expression of opinion is entirely uncalled for. The treatment adopted by the physicians in the case, the bleedings, purging, and the use of such depressant drugs as tartar emetic were calculated perhaps to do the patient harm rather than good, but this was the fault of the times rather than of the medical men. The true nature of Washington's fatal malady seems to been been properly diagnosed. Death resulted from *cynanche trachealis*, which the attending physicians, Drs. Craik, Dick, and Brown render into English as "inflammation of the upper part of the windpipe."

The symptoms of the case point to the fact that the real cause of death was acute edematous laryngitis. The mistake in the location of the lesion, placing it in the windpipe instead of the larynx, was, as pointed out by Dr. Cohen, probably much more the difference of nomenclature than any absolute error of diagnosis. Even in our day these cases often prove fatal. As late as 1852, in a series of 213 cases of acute edematous laryngitis, Sestier reported 158 deaths. Tracheotomy had been performed thirty times. Of 41 cases reported in 1898 to the American Laryngological Association all the cases, it was said, that had been recorded in the world's medical literature of the preceding ten years, only 29 recovered, tracheotomy having been performed seven times with six recoveries. As Dr. Cohen points out, rarely is the effusion simply serous, but in a number of cases is in part purulent. That there was a septic element in Washington's case, the severe chill with which the disease is reported to have begun seems to indicate.

Dr. Cohen attributes autoscopy to Dr. Kirstein of Vienna. Dr. Kirstein is and has always been at Berlin. He lectures on the subject of laryngology with special attention to autoscopy in Professor Senator's Polyclinic in that city.

THE AUTOBIOGRAPHY OF A QUACK.

The first two instalments of Dr. S. Weir Mitchell's new novel under this title have appeared in the November and December *Century*. It will prove, we think, very interesting reading to members of the profession generally. Some of the touches of nature in the book are most happy. The quack's regret for not having asked a larger fee for impersonating the coroner in a suspicious case, and then for having neglected the opportunity to demand a fee of the friend who insisted on having the autopsy made, is very good.

At the beginning of the second instalment (December *Century*), the quack's defense of himself to himself, is put, as he says himself, in a "rather neat phrase." "I prefer to distribute pecuniary suffering among many, rather than to concentrate it on myself." The quack's appreciation of the possibilities of electricity in his special line are thoroughly amusing and will awaken a sympathetic cord in many minds.

THE PLAGUE AND THE MAGAZINES.

The plague is attracting so much general attention that a number of special articles with regard to it have appeared in the magazines during the last two months. Of these the two most important contributions are the articles on "The Plague at Oporto," in the *Nineteenth Century* for November, and Julian Ralph's article in the December number of *Harper's Monthly*, called "Under the Vulture's Wings," which is really a picture of the present condition of Bombay in India. The sanitary conditions of Oporto as reported by the writer in the *Nineteenth Century* are not calculated to allay fears regarding the continuance of the city as a focus of plague. The death-rate of Oporto for 1898 was 30.6 per thousand, the hightest death-rate in Europe, higher even than many of the small towns usually considered so unsanitary along the Italian coast of the Mediterranean. The infant mortality at Oporto is 226.3 per thousand as compared to 158 in London and 118 in Paris. While in density of population the city in general does not seem to have an excessive ratio, the number being sixteen per acre, in certain parts of the town, in the slums, the density is said to be at least 400 per acre. Medieval sanitary conditions prevail to a large extent. The sewage system is imperfect, the water-supply not properly guarded and natural springs, easily open to contamination from surface as well as underground drainage, are used very commonly for drinking water. Oporto is beautifully situated and the slope of the rising ground gives magnificent opportunities for perfect sewerage, but all opportunities have been neglected. In the central portions of the city,

streets are narrow, scarely more than footpaths, houses have very little light, and no great care is taken to provide windows for the admission of even what light there may be. People sleep in rooms in which the sunlight never penetrates. These quarters are damp, foul-smelling with open latrines in the rooms, and rotting boards and any number of rats as companions. The conclusion is "that there is not the remotest chance of the plague being stamped out." The sanitary cordon was a mistake, the attempts at isolation of the disease, an utter failure.

Julian Ralph in *Harper's* says: "There are two Bombays just now. There will be two during the twenty or fifty years that the plague may last—Bombay the Rainbow City, and Bombay the Horrible. The latter phase is now uppermost. While the plague lasts Bombay must continue dark and hideous, shaded by the vulture wings of death, tainted in water, soil, air, and food, with the bacilli of the pestilence, strewn with dead like a battle-field whereon hunger, filth, and fatalism join hands with epidemic to decimate the human swarm. The picture of fatalistic nonchalance on the part of the natives drawn by Mr. Ralph gives a good idea of the reason why the plague has spread, is spreading and will continue to spread in India, until the British Government in India is aroused to a sense of its responsibility to the civilized world to adopt the most radical measures for its eradication.

CLAUDE BERNARD AND COUNTER-PRESCRIBING AMONG THE PHARMACISTS IN HIS DAY.

A series of articles of especial interest to those who contemplate a medical pilgrimage to Paris next year have just appeared in the French magazine, *Le Correspondent*. The title is "Physicians, as Members of the French Acaddedy." The last physician who was a member of the Academy was Claude Bernard. An amusing incident is told of certain pharmaceutical methods in vogue in his day, which years after formed the motive for his investigation into the physiological effects of drugs. As a young man Claude Bernard served an apprenticeship to a druggist in the small country town in which he was born. Whenever any drug became deteriorated from age, or whenever a prescription was spoiled by some wrong ingredient being put into it inadvertently, or whenever tinctures and other such preparations failed in the making the rule of the shop was *Mettez vous cela de côté pour la Theriaque*! Put that that aside for the Theriaque. The whole heterogeneous collection under this name of "Theriaque" became the favorite medicine for most of the chronic drug-takers in the neighborhood. It was a panacea for every ill and had been known under varying circumstances to cure every affection that flesh is heir to and a few others besides. All this without the printer's ink, the liberal admixture of which makes such remedies so efficient nowadays. It is scarcely to be wondered at that the young druggist formed the resolution of learning something definite and scientific about the effect of drugs on the human system.

PROFESSIONS FOR BOYS AND HOW TO ENTER THEM.

FAMILY physicians are so often consulted with regard to professions that the sons of their patients may take up, that a recent work of Pechell and Nolan, with an introduction by the present Bishop of Calcutta, the former headmaster of Harrow school, will be of interest. The book is eminently practical in the facts and figures that it gives. Young men are discouraged from entering the medical profession at present, owing to the overcrowding of its ranks. The naive remark is added that there is no profession that suffers more from bad debts. On the contrary, the authors point out that there seems to be room for young men in the dental profession, and they insist that young Englishmen who take up that profession should spend at least a year in study in America. Our own President Thwing, of Western Reserve University, pointed out in *The Independent* not long ago that the dental profession was the only one which a young man might reasonably expect to enter in our day and make his own living at once.

CORRESPONDENCE.

THE SMALL PUPIL.

To the Editor of the MEDICAL NEWS.

DEAR SIR—The teaching is that age makes the pupil small. This is not true. The aged with perfect eyes have pupils nearly as large as the young. Only about one person in a thousand has perfect eyes, for most have far-sightedness, astigmatism or dissimilar eyes. Many have all of these. The near-sighted who have no astigmatism and no dissimilarity in the two eyes are few. These have no change in the pupil as age comes on. The size of the pupil depends almost entirely upon perfection in form and innervation of the eyes. If the pupil is constantly small, the eyes are imperfect and there is astigmatism, dissimilar eyes, or far-sightedness, often all of these. Such troubles can be overcome by proper glasses. If perfectly fitting glasses are worn the pupils of the aged are nearly like those of the young.

Age brings out latent defects, the image blurs, the pupil gets small to improve definition. The finest print can be read through a pin-hole in a dark card even though the print is held close to the eye. The unaided eye can not do this. As age advances the lens loses its softness and the focusing muscle, however strong, can no longer shape the lens to throw perfect images on the retina, so the pupil becomes small to sharpen the images. In youth the lens is so soft and elastic that the focusing muscle can do wonders with it.

The eye, instead of becoming old sooner, probably retains its faculties as late as any of the powers of life. If the eyes are perfect or made so with glasses, age has little effect on them. Until lately the perfect fitting and balancing of the eyes with glasses has not often been accomplished except in the simplest cases.

Eyes with less far-sightedness, near-sightedness or astigmatism than 0.25 D and not more dissimilar than 0.12 D may be considered perfect. Dissimilar eyes of 0.25 D or more are present in about fifty per cent. of persons.

There is astigmatism of 0.5 D or more in about sixty per cent. If there is astigmatism or near-sightedness the eyes are apt to be dissimilar.

NORBURNE B. JENKINS, M.D.

CHICAGO, November 20, 1899.

TRANSACTIONS OF FOREIGN SOCIETIES.

English.

SERUM THERAPEUTICS AND ANTITOXINS—INFECTIVITY OF MALIGNANT GROWTHS — LOCKJAW FROM PERIOSTITIS—SUCCESSFUL TREPHINING FOR CEREBELLAR TUMORS–ACTINOMYCOSIS CURED—UPWARD DILATATION OF THE STOMACH—TRANSPERITONEAL NEPHRECTOMY — CONGO SLEEPING-SICKNESS—TUBERCULOSIS OF THE PELVIC ORGANS IN THE PHTHISICAL—ANESTHETICS AND INSANITY — BREHMER'S TREATMENT OF TUBERCULOSIS—BLOOD EXAMINATION IN GENERAL DISEASES.

AT the meeting of the Medical Society, October 9th, HERON opened a discussion on serum-therapy and antitoxin treatment. He administered the old tuberculin to a number of phthisical patients, some of whom were permanently benefited for at least six years. With the new tuberculin the results were more satisfactory, many of the patients having improved in health to a remarkable degree. One patient having lupus did extremely well under the treatment and the scar-tissue appeared perfectly healthy eighteen months later.

WASHBOURN spoke of antistreptococcic and antipneumonic serum. These remedies have no effect on toxins but are antibacterial. In this respect they differ from diphtheria serum which is an antitoxin. Antistreptococcic and antipneumonic serum do not protect against all varieties of these cocci; therefore some patients will be benefited by their use whereas others will not. If no improvement follows the first injections, it is well to repeat them, using a different preparation.

At the meeting on October 23d, SMITH and WASHBOURN communicated a paper on the infectivity of malignant growths. Their experiments showed that embryonic cells when transplanted are capable of limited multiplication. This fact lends some support to the theory of Cohnheim. Both injury and chronic irritation are to be considered only as predisposing causes of cancer just as they may be of tubercle. The authors cited a number of instances of accidental inoculation in the same individual of the pre-existing growth, and insisted on the possibility of re-infection through operation. There is also good evidence of the inoculation of one individual from another. The geographical distribution of cancer supports the theory that cancer is infective. It has not been satisfactorily transplanted from human beings to animals, but there is good evidence that it was transplanted from one individual of the same species to another. General tuberculosis and general sarcomatosis were compared. In both diseases there is late infection of glands and marked cachexia, and both may arise from local irritation or injury. The nature of the bodies found in cancerous cells is still doubtful. They bear a certain resemblance to protozoa in the animal kingdom and to blastomycetes in the vegetable kingdom. It is difficult to explain why secondary deposits are of the same nature as the primary tumor, and the authors suggested that both the parasitic and the epithelial cells are conveyed to distant parts, and in the new situation the former causes a proliferation of the latter. It is at least possible that the bodies found in cancer are the cause of the disease, although the evidence which directly associates the two is wanting.

At the meeting of November 13th, EWART exhibited a case of persistent lock-jaw occurring in a man aged forty-seven who had lost all his teeth. The illness began with a severe cold and one week later, during the night, the lock-jaw set in quite suddenly. He was awakened by a feeling of suffocation due to the closure of his lips unsupported by teeth. Speech, respiration and alimentation were much impeded but there was no true tetanus. This condition persisted for five weeks. There was a tender and slightly swollen spot at the left posterior extremity of the lower jaw, and a diagnosis of reflex spasm due to periosteal irritation was made. After various local applications had failed to relieve the condition, the surgeon made a long incision through the gum over the tender spot and the symptoms rapidly disappeared. It is interesting to notice that the patient had neither teeth nor stumps in his head.

At the Clinical Society, October 27th, GUTHRIE and COLLIER showed a case of cerebellar tumor successfully treated by trephining and drainage. The patient was a boy aged nine years. When three years old he had a fall on his head followed by profuse epistaxis. Four years afterward severe headaches came on and grew worse, being accompanied by drowsiness, yawning, and unsteadiness of gait. Finally operative relief was sought. At that time the walk was typically cerebellar, the movements of the right arm were ataxic and there was evidence of double optic neuritis. At the first operation the left lobe of the cerebellum was exposed. Three days later a trocar and cannula were thrust upward and forward and there was withdrawn about one ounce of clear yellow, highly albuminous fluid which would not reduce Fehling's solution. It could not, therefore, be cerebrospinal fluid. The patient made a good recovery and up to eighteen months later there had been no recurrence of the symptoms, but the patient remained absolutely blind.

TURNER showed a case of actinomycosis in process of cure. The disease showed itself in the right cheek of a man aged forty-two years. Incisions were made into the supposed abscess and in the thin, seropurulent fluid which was discharged through the sinuses thus formed, a ray-fungus was discovered. The sinuses were repeatedly scraped and the patient was given 15 grains of iodid of potassium three times a day.

SLATER, who studied the bacteriology of the above case with great thoroughness, came to the conclusion that the organism was a streptothrix differing from the ordinary actinomycosis bovis and resembling the many streptothrix organisms which can give the same clinical symptoms as actinomycosis.

EWART showed two cases of upward dilatation of the stomach. The symptoms complained of were an ill-de-

fined feeling of malaise together with impairment of the respiration and heart-action. Much exercise in both cases brought on severe anginoid seizures. In both cases the precardial region was encroached upon by stomach resonance which, in one instance, rose as high as the left nipple. Both patients improved under respiratory exercise.

At the meeting of November 10th, SUTTON related the details of a case of primary nephrectomy for rupture of the kidney. This operation has been performed less frequently than it should have been, the diagnosis unfortunately being usually made at autopsy. Evidences of rupture of the kidney are three-fold: First, there is a history of injury in the loin. Secondly, there is an ill-defined lumbar swelling, and, thirdly, there is usually blood in the urine. SUTTON said he had been accustomed previously to attack the kidney through a lumbar incision, but that he had gradually come around to Thornton's transperitoneal method. He had chosen this route in twenty-five cases and the results were excellent. With a little care the peritoneum can be brought together so as to shut in the general peritoneal cavity, while the drainage is more convenient than that through the loin.

At the Pathological Society, October 17th, MANSON read a paper on the Congo sleeping-sickness. So far as known this disease is limited to a part of the Gold Coast of West Africa. It has remarkable latency, said to be as long as seven years. He had known of one instance in which a negro three years after he had left the Congo developed the disease in England. The onset is very insidious. There are gradually increasing languor and muscular weakness, a tendency to sleep, tacitiurnity of disposition, and slowness of movement. The temperature is subnormal with occasional fever. The second period is marked by great drowsiness and prostration. If aroused the patient will reply and eat, but will sleep almost continuously if left alone. In the third stage there are bed-sores and convulsions supervene. There is chronic lymphangitis and sometime a papular eruption with great itching. Death may occur from exhaustion or from some intercurrent disease. A fatal issue is sure although the patient may rally for a time. The etiology is very uncertain although it has generally been assumed that the sickness is of parasitic origin and it is claimed that a micro-organism has been found which bears an etiologic relation to the disease.

At the Obstetrical Society on November 1st, TURNER spoke of tuberculosis of the Fallopian tube and uterus. He examined the genital organs in twenty-seven consecutive cases of tuberculosis in the female. The results demonstrated the frequency of tubercular lesions in these organs in cases of phthisis, lesions of the tubes or uterus or both being found in five subjects, 18½ per cent. He inferred that the usual form of tubercular salpingitis is due to the entrance of bacilli into the open ends of the tubes from the endometrium, although infection through the blood-channels probably also occurs.

At the Society of Anesthetics on November 3d, SAVAGE read a paper on the relationship between the use of anesthetics and insanity. Anesthetics rarely produce insanity except in patients who have previously had attacks of insanity or who are predisposed to it by exhaustion or allied states. Therefore the administration of anesthetics to patients who are subject to recurring attacks of insanity is associated with considerable danger. There is little or no danger to be anticipated from their administration to those already insane. Success has not followed attempts to treat insanity by the administration of anesthetics. Maniacal patients are quiet for a time but return immediately to their maniacal state as soon as the anesthetic is discontinued. Sleep thus produced is temporary and of but little service.

At the Royal Medical and Chirurgical Society, November 14th, FOWLER opened a discussion on the open-air treatment of tuberculosis. Brehmer was the first to systematize this treatment. His principles are: (1) the residence of the patient in the sanatorium under constant medical supervision; (2) complete freedom from excitement of all kinds; (3) a life spent in the open air; (4) rest during the periods of the disease attended by fever. (5) methodical hill-climbing as an exercise when fever is absent; (6) abundant dietary in which vegetables occupy a prominent place, and (7) various therapeutic measures. His program has been variously modified by different physicians to the loss rather than the gain of the patient. Thus to stuff a patient with food and to cause him to lie in the open air, instead of exercising, may make him stout but at the same time make him flabby and incapable of exercise. Many of the Continental so-called "sanatoria" are nothing but huge hotels in which patients are insufficiently observed. It must not be forgotten that the greater amount of food taken, the less significance is to be attached to a gain in weight as an evidence of the arrest of the disease.

ALLBUTT insisted on the difference between lying in a room with a strong draft and lying out of doors. In the former situation one is very apt to take cold; in the latter rarely.

At the Edinburgh Medico-Chirurgical Society, November 1st, GULLAND read a paper on the importance of the examination of blood in doubtful cases of disease, since the blood is the only tissue of the body which may be examined microscopically and chemically during life.

He referred not to diseases such as pernicious anemia or chlorosis, but to general diseases, most of which affect the blood-mixture in some way. In an ordinary blood examination, the number and condition of the red corpuscles and the amount of hemoglobin present, the number of white corpuscles, and the percentage of the different varieties present, the number of blood-plates, and the rapidity of formation of the fibrin network, are the things to be noted. The number and condition of the red corpuscles are of little value in diagnosis, since widely different causes, for instance, gastric cancer or bleeding piles, may produce almost exactly the same anemia. But this examination is of very great value in determining the prognosis in any case. Thus, it is evident that a patient, suffering for example, from pneumonia, has a far better chance of recovery, all other things being equal, if his blood shows five million red corpuscles than if it shows only two million. The percentage of hemoglobin yields

about the same information as the blood-count. The same is true with regard to the rapidity of fibrin-formation. The examination of the white corpuscles is of the greatest assistance. An increase or diminution of the numbers and proportion of the different varieties present, or the presence of varieties not usually found in the blood, may all give information important not only for diagnosis but also for prognosis. Take for example, this case: A woman was confined and the placenta had to be removed manually. Five weeks later the red cells numbered 2,640,000, with 15 per cent. of hemoglobin and a certain amount of poikilocytosis. The leucocytes were 13,400 and mostly polynuclear while the fibrin was increased. Pernicious anemia was therefore out of the question. While this blood examination pointed to an inflammatory condition, the case was reported as probably one of sepsis as it proved to be at autopsy. Leucocytosis is just as important to the surgeon as to the physician. If the blood of a patient suffering from appendicitis be examined day by day an increasing leucocytosis will give warning of pus formation before the temperature or physical examination indicates its presence. The amount of leucocytosis present in malignant disease is an index of the nature of the growth and the size of the tumor and of the existence or non-existence of metastases. If leucocytosis appears the extirpation of a tumor is evidence of its recurrence.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Regular Meeting, held Saturday, October 28, 1899.

The President, Dr. Henry C. Coe, in the Chair.

The paper of the evening was read by Dr. Marcellus Reeves, and was entitled

ELECTRICITY IN MEDICINE.

Dr. Reeves briefly reviewed the history of electricity, and then took up its application to medicine since its introduction, which occurred toward the middle of the last century, in London. The forms of electricity that have been found useful in medicine are static or Franklinic electricity, which has an enormous voltage and a very high amperage; faradic electricity, whose voltage is lower and amperage low; galvanic electricity, whose voltage is low and amperage somewhat higher. It must be borne in mind that the negative spark is always the more irritating, and that it should be used only on cloudy days when it is difficult to obtain proper effects from the positive pole. When the patient is perfectly insulated and is given static electricity the nutrition is improved and the pain relieved. It is especially soothing for those nervous, discomforting conditions which are so hard to reach by any ordinary medical means. If sparks are taken from the patient when in this condition a wheal is often produced and a lesion not unlike a flea-bite. This is at first whitish, showing that there is vasomotor constriction, but later it becomes red, indicating that vasomotor dilatation has taken place.

The indirect spark, which is less irritating than the direct, should be used always except on damp days, when it is difficult to obtain the proper charge of electricity. The electric breeze which is obtained from a charged machine by the use of a pointed electrode is soothing for local irritation. In facial neuralgia, for instance, as well as other localized pains, it often gives excellent results, and often works well for such general conditions as insomnia.

There has been a controversy on the question of priority in using an interrupted electric current, in which the interruptions occur millions to the minute. Certain French electricians have claimed the honor, which is, however, generally conceded to Dr. Morton of this city, and a member of this club.

This current is of great service in electric treatment. It causes contraction of the muscles, but the contraction is painless as compared with the faradic current, and the effect is more diffuse. Patients easily bear currents that cause flexion at the wrist or even at the elbows or shoulders without much complaint. There is a feeling while the current is passing as if the hands and arms were made of cork, so complete is the anesthesia. This current has not, however, been used as generally as its good effects would deserve. It is very efficient in the treatment of such maladies as lumbago, sciatica, and other neuralgias, as well as in chronic rheumatism. It has a specific analgesic effect which makes it useful in most painful conditions. For instance, for ovarian pain it has been used with marked success, while stitches of pelvic pain of uncertain cause, and for which it has been difficult to obtain relief, are often completely overcome. It is far better than either the galvanic or the faradic current in such painful conditions of obscure origin.

In general, electricity is good for most subacute or chronic conditions. Static electricity is not a cure-all, and should not be used indiscriminately, but used with precision and judgment it will relieve pain in a number of chronic affections. It must be used with judgment. In eighty cases of neuritis recently treated by static electricity practically all were much benefited. Lumbago, sciatica, neuralgia, rachialgia, pre-pruritus, chronic synovitis, and chronic bursitis have all been benefited. In locomotor ataxia the patient has been strengthened, and while the ataxia itself has not been ameliorated, he has been rendered free from pain.

The faradic apparatus is readily portable, and so is more frequently used in patients' homes. It produces excellent effect by the stimulation of atrophic muscles, and in general by its tonic effects on the surface of the body. Care should be taken, however, not to subject weakened muscles to prolonged tetanization by the faradic current, as this will do harm rather than good. As a general rule the best number of faradic impulses to allow to pass through a muscle per minute is about thirty. A clock-work arrangement can easily be set up which will accomplish this purpose exactly, and at the same time give equal periods for contraction and repose. This method gives the best results for the stimulation of muscles.

To obtain the galvanic or constant current the Leclanche cell is usually the most satisfactory means available. Forty cells are enough for office work. The street current is sometimes employed for this purpose, but even when regulated very carefully it is always more irritant than that obtained directly from the battery.

Magnetism, even that produced by very large magnets, such as those made of cannon as cores of electromagnets and wound with miles of wire, have produced no appreciable effect on these processes of the human body.

A very interesting feature of electrical action is the electrolytic effect upon human tissues. It undoubtedly retards or causes the reabsorption of such tumors as uterine fibroids. Weis found marked changes in the muscle-cells of frogs as the result of electrolysis, and this undoubtedly is the physical basis of the reported cures in cases of fibroids.

A feature of electrical treatment that is coming into prominence just now is cataphoresis, that is to say, the forcing into the skin by means of an electric current of various remedies which would otherwise be absorbed very slowly and in very small quantities. Plumbago has been forced into the skin by cataphoric action to such a depth that it could not be removed by scrubbing. Cocain can be used very effectively to produce cutaneous anesthesia in this way. When it is combined with guaiacol it is not very easily absorbed, and hence does not produce readily the inconvenience of toxic symptoms. In dentistry cataphoresis has given especially brilliant results.

In the discussion which followed the reading of the paper, DR. COX said that he had seen some brilliant results obtained with electricity in the treatment of sprains. It was more efficient and less painful than massage, and had the advantage of not requiring the services of a skilled attendant. Last year he treated four sprained ankles and one sprained knee in members of the Yale football team with such excellent results that the director of the team expressed his desire to have an electric machine hereafter for the work at New Haven. In sciatica electric treatment often gives prompt and permanent relief from pain. In a recent case of bad double sciatica in a tuberculous patient the result was most striking.

DR. LILIENTHAL spoke of cataphoresis as of the greatest interest in the modern use of electricity in medicine. His attention was first called to its possibilities in the production of local anesthesia in a case in which sensitive dentine had been rendered absolutely anesthetic. Even when the pulp was inflamed perfect anesthesia could be obtained by this method. In using cocain by cataphoresis on the skin he has sometimes had urticaria follow the application when the wheal has disappeared in a few days, with some desquamation. In counter-irritation cataphoresis would seem to be of the greatest value.

DR. POTTER said that he had seen some very excellent results in the electrolysis of fibroid tumors under Dr. Apostoli in Paris. The menstrual disturbances ceased alter the treatment, and the tumors seemed actually to become smaller.

DR. JOSEPH KENEFICK stated that he had been able to cure mycosis of the tonsils, especially that due to the streptothrix buccalis, which produces its lesions mainly on the surface of the mucous membrane by the electrical diffusion of salts over the surface. He has found that the opening of furuncles in the ear, which is one of the most painful of small operations in the whole of minor surgery, can be made absolutely painless by cataphoresis. He makes use of the street current, using two to four milliamperes for ten to fifteen minutes. He has found electrolysis of the greatest benefit in the treatment of strictures of the Eustachian tube. Not infrequently impaired hearing depends on the existence of stricture here, and in this case the results of electrolysis are most brilliant. Patients describe certain bubbling sounds which occurs in their ears, as the new-formed tissue of the stricture melts away in the electrolytic process. In these cases it is very important to use the negative pole, as it is this pole which produces destructive chemical changes.

DR. HUDDLESTON suggested that cataphoresis might be employed to drive antiseptics into the tissue in erysipelas and in other such superficial inflammations.

DR. COE said that some years ago Keith of Scotland gave up the use of the knife for fibroid tumors because he seemed to be able to obtain symptomatic results equivalent to a cure from the use of electricity. It is true the fibroid tumor did not disappear, but pain and hemorrhages were so much lessened that the result was very satisfactory. The same was true, to a certain degree, for pelvic conditions in general. Of late years, however, we have heard less and less of this method of treatment, and there are but very few now who continue to employ it to any extent or to express satisfaction with its result.

In conclusion, DR. REEVES said that Professor Apostoli of Paris used to claim that he cured fibroids by electrolytic methods, but faith in the cure in which, it is probable, suggestion played an important rôle, seems to have recently diminished. But enough actual good was accomplished by the electrical treatment to make it unfortunate that the method should not continue to be used, as it involves absolutely no risk and in certain cases is it least as effective as surgical intervention.

DR. WILCOX said that in two cases of rheumatoid arthritis in which the Tallman method of treatment by means of local superheated baths had been a failure, he had recommended the cases to Dr. Reeves for treatment by cataphoresis. In one of the cases considerable success was obtained. Movement was much increased, pain was lessened, and the progress of the disease seemed to be checked. In the other case not much, if any, benefit has been attained as yet. In a case of gonorrheal arthritis he has seen hydriodic acid used by cataphoresis do considerable good; in another case no benefit resulted.

THE NEW YORK ACADEMY OF MEDICINE.—SECTION ON ORTHOPEDIC SURGERY.

Regular Meeting, Held Friday, October 20, 1889.

THE Chairman, DR. A. B. JUDSON, in the Chair.

The first paper of the evening was read by DR. JUDSON. Its title was

THE PATHOLOGY AND TREATMENT OF WHITE SWELLING OF THE KNEE. (See p. 854 of the present issue of the MEDICAL NEWS.)

DR. G. R. ELLIOT read a paper, entitled:

ERRORS OF DIAGNOSIS WITH REGARD TO WHITE SWELLING OF THE KNEE, AND REPORT OF CASES.

DR. ELLIOT said that it is not hard to diagnose white swelling when the classic picture of that affection is presented. In exceptional cases, however, there may be no pain, no atrophy, no reflex spasm for long periods before the development of any pathological signs. This is especially apt to be the case if the affection is limited to the synovial membranes. Two other affections may be mistaken for tubercular arthritis, One of these is chronic arthritis, non-tubercular in character. A case will illustrate: a young girl fell in the street and hurt her knee; bandages and lotions were applied for a couple of days, and she got out of bed and used her limb, favoring the joint. It continued to be sore, and the muscles of the thigh and calf wasted. Movement caused pain, the skin over the joint became pale and there was something that closely resembled reflex spasm. It did not, however, present the classic features of reflex spasm and proved on careful analysis to be rather an exaggerated resistance to movement. The case looked so much like one of tubercular arthritis of the knee that operation was suggested by the attending surgeon before she was brought to me for consultation.

Firm, moist compresses were applied and the joint was thoroughtly fixed. The swelling rapidly disappeared and massage and gentle motion were provided in order to get rid of the atrophy of muscles. The whole condition gradually improved and the patient says now that this limb is as good as the other. (Operation would inevitably have left her lame for life; and it can readily be understood what a benefit it was to her to be saved from it.)

The possibility of mistaking sarcoma of the knee joint for white swelling is not discussed much in the text books. It is important, however, for delay in making the diagnosis may cost the patient his life. One such case has been recently under my care in consultation practice. The first symptom of the case was pain. This was set down to rheumatism and the treatment for that affection was given absolutely without effect. Swelling of the joint shortly set in, and a New York surgeon diagnosed "white swelling of the knee." The pain continued to be a very prominent feature and any extension of the limb could not be tolerated. In order to make the examination the patient had to be etherized. The normal joint was thirteen inches in circumference, while the abnormal one was thirty-one. A series of bony nodules could be felt all over the tumor and fluctuating areas were easily demonstrated. It was decided at once that operation was not feasible. The symptom that demanded relief was the pain. By opening the large fluctuating areas great relief was afforded. The cystic parts were found filled with a bloody serum containing disintegrated red blood-cells. An excised piece of the tumor examined under the microscope showed abundant round cells of the most maglignant form of sarcoma. There was very little suffering after this palliative measure, but the patient died four weeks later. The first sign of the tumor had been noticed seven months before.

The skin over the tumor when I first saw it was maroon colored. SIR JAMES PAGET says that this always means that the tumor is a myeloid tumor, but in this case it proved to be a cystic, round-cell sarcoma. It should be borne in mind then, that when fixation and extension of a limb give no relief the process is probably not a tubercular one, and may be malignant. Constant pain, especially if of severe character, and not merely occurring in spasms, also points to malignancy. The size is another pathological sign of sarcoma. But to wait for this symptom is practically to condemn the patient to a fatal issue.

DR. W. R. TOWNSEND read a paper on the

OPERATIVE TREATMENT OF WHITE SWELLING OF THE KNEE,

in which he said that the benefits of mechanical treatment precluded the necessity of operation if the case is seen early and is properly treated. Whenever abscesses develop, however, whether they be acute or chronic, they should be opened. If the bone seems affected it should be curetted. A movable joint will nearly always be secured if this is done, while otherwise anchylosis will almost certainly ensue. If an abscess forms in the lower end of the femur or the upper end of the tibia, and does not communicate with the joint it may be evacuated before the joint becomes infected. Such abscesses should not be probed for the slight wall of separation, often composed of soft friable bone, may be broken down and the joint infected. If the joint had become septic it should be freely opened and drained. An incision should be made across the joint in front. Free incision with drainage may save the leg or save life. Of course, in such cases there should be no movement. I have here the temperature chart of a case of sepsis of the knee-joint in which the drop in temperature occurred immediately after amputation. Here life was probably saved by the operation. Where the bone is affected an excision of the joint may be done, or an arthrectomy, sometimes called an erasion, may be performed. The typical excision should never be done in a child, as the leg would become deformed with growth. Other deformities, such as bow-legs and knock-knees follow the operation in children. Sinuses should be stimulated into healing by the use of such drugs as balsam of Peru, alcohol, and the like. The indication is to remove all diseased tissue, that is, to do an arthrectomy if possible, if not, an excision. The more careful our mechanical treatment is the less will operation be required. When an operation is deemed necessary it should be performed at once and thoroughly.

NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, Monday evening, November 27, 1899, Held at the New York Academy of Medicine.

DR. S. O. VANDERPOEL, the retiring president of the

society, introduced Dr. George B. Fowler, the president for the coming year.

DR. FOWLER delivered his inaugural address on

SOME NECESSITIES OF THE HOUR FOR MEDICAL SOCIETIES AND MEDICAL MEN.

In brief he said that it seems too bad that the history of medicine is not more commonly studied since it would act as a decided antidote against the toxin of medical vagaries and as a corrosive of an overweening confidence in methods of treatment that have been tried and found wanting years ago. It is to be regretted also that physicians do not take more general interest in the welfare of the commonwealth and municipality. There is too much withdrawal on the part of physicians from their political duties as citizens. The apathy of the better classes is a standing disgrace. Physicians especially are qualified by their wide interests in humanity to take large, liberal views of political questions, and they should take more interest in public affairs.

A third necessity of the hour for physicians is the keeping up of the dignity of the profession, by the avoidance of suspicious methods and the absolute severance of any relation with the irregulars in medicine. The practice of medicine is not a money-making trade, but one of the learned and honorable professions, and its dignity can be properly kept up only by punctilious scrupulousness on the observance of the most honorable principles.

The paper of the evening was then read by DR. THOMAS S. CULLEN of Johns Hopkins University, Baltimore. Its title was

CANCER OF THE UTERUS AND ITS EARLY DIAGNOSIS.

Dr. Cullen's remarks were illustrated by a very large series of magnificent macroscopic and microscopic pictures of the conditions present in these cases. He began with a series of pictures of the normal uterus and the epithelial structure in its various parts, which give rise to the different forms of cancer—the squamous epithelium of the vaginal portion, the cylindrical glandular epithelium of the cervical portion and the glandular epithelium of the body of the uterus. These give rise to the three kinds of epithelial malignant growth which occur in the uterus. Squamous epithelium not unlike the skin gives rise to a neoplasm which is usually slow in growth and spreads by preference on the surface, only at times penetrating into the depths of the uterine tissue by finger-like processes.

The three parts of the uterus give very different and typical neoplasms. While epithelioma of the cervix and body of the uterus both arise from glands, the glands are very different in the two locations and give rise to characteristic carcinomata comparatively easy of differentiation. With regard to the mucous membrane of the body of the uterus, there has always been considerable controversy. It has been generally thought that it was shed at each menstrual period, but it was shown that while there is a hyperemia of the mucous membrane, it remains intact all during the menstrual period. Under other circumstances, as for instance at different ages, the mucous membrane of the body of the uterus has a very different appearance. In old age for instance, it differs very much from what it is in the child or young woman. These peculiarities of the uterus must be well known in order to avoid certain sources of error in the microscopical diagnosis of cancer. For it is possible to diagnose cancer from scrapings of the uterus at a time when there are no clinical symptoms that would justify a positive diagnosis.

Epithelioma of the vaginal portion gives a very characteristic mushroom or cauliflower mass, with dendritic outgrowths. It may be readily diagnosed by clinical examination even before it breaks down. It takes but very little to cause the mass to break down, and as it is mainly composed of cells, and as each finger-like projection contains a blood-vessel, but very slight irritation is required to make it bleed. These growths are very friable and so do not often retain their characteristic appearance for laboratory examination. At times there is not an outgrowth but root-like ingrowths, and then little plugs may be squeezed out of the cervical tissues by pressure, the plugs consisting of nests of cancer-cells. It must be remembered that the squamous epithelium of the vaginal portion may sometimes extend up into the cervix even as far as the internal os, so that the neoplasm is apparently cervical in localization yet squamous in character. Where the neoplasm burrows deeply into the muscular tissue, its cells replace the muscle and make it very friable. The examiner and the operator must then exercise a great deal of care in manipulations, since it would not be difficult to tear tissue and open up a sloughing abscess, thus infecting the general peritoneal cavity.

One of the most common complications of this form of growth is its pressure upon and consequent interference with the function of the ureters, causing the development of hydro ureter and death from uremia. The growth of the mass may completely close up the uterus and an accumulation of material behind the obstruction may lead to great distention of that organ and thinning of its walls. This accumulated material may become infected with the production of a large abscess. Myoma and carcinoma in the same uterus are not infrequent. Usually the myoma is spared from invasion by the cancerous process, but sometimes it is not.

With reference to cervical growths it must be borne in mind that it is often impossible to make a diagnosis at a stage sufficiently early to justify a favorable prognosis after operation, except by scrapings. Adenocarcinoma of the cervix is the most malignant form of neoplasm in the uterus. Often it will appear to be absolutely localized to cervical tissues and an amputation of the cervix will alone seem necessary. The results of partial operation are, however, very discouraging because of metastases.

Cervical carcinoma gives a very typical microscopical picture. Formerly in these cancers of the cervix, certain clinical symptoms often led to suspicion of the presence of the neoplasm, but not enough to justify operation. It was then usually decided to await developments. After they had come it was too late for radical operation.

It is not difficult to differentiate between inflammatory tissue and carcinomatous growth. The pictures are distinctly different. Occasionally a fold of mucous mem-

brane dips down and so on section gives the appearance of cell-nests below the surface. But in the first place it will be found that all of these cells are about the same size and their nuclei also; while if the columns of cells are followed they will be found to be connected with the superficial layer of the mucous membrane. Dilated cervical glands sometimes are a reason for mistakes of diagnosis. In one such case, where the scrapings pointed surely to the existence of cancer, macroscopic examination of the cervix seemed to indicate that there was none, while dilated glands were easily recognizable. A carcinomatous growth was found, however, higher up, justifying the microscopic diagnosis.

Cancer of the body of the uterus is practically impossible of diagnosis, except by microscopic examination of the scrapings. Myoma of the uterus seems to enhance the tendency to cancerous development.

It is a good practical rule that where hemorrhage or other suspicious symptoms of cancer exist the curette should be used, or a portion of the cervix should be removed and careful examination made of the tissue thus obtained, in order to decide whether cancer is present or not. The diagnosis can be made with absolute certainty. Curettage should be complete even for purposes of examination. Otherwise there is a liability that a neoplasm may be present and yet be missed.

The discussion was opened by DR. PAUL F. MUNDÉ of New York, who said that it was known for a good while that the curette and microscopic examination of the specimens thus obtained would permit of the very early diagnosis of cancer of the uterus. Unfortunately cases do not come soon enough to make this method of very much use. Palliative treatment is indulged in for too long, or symptoms that are decidedly suspicious are looked upon as indicating some merely functional disturbance. General practitioners and the public need to be educated so that certain early symptoms may not be neglected for so long a time as unfortunately they are now. With regard to microscopic diagnosis some personal cases had not proved that it was as certain as claimed. In six cases of irregular hemorrhage in five of which the late Dr. Heitzman, whose ability as a microscopist no one could doubt, announced that malignant tumors, in one case lymphosarcoma, in the others, adenocarcinoma were present. This was nine years ago. A curettement was done in each case and fuming nitric acid was applied. All of the patients are alive and well today. Now either curettement and the application of nitric acid will cure cancer of the uterus or there was no cancer present. Clinical diagnosis is still of the greatest service. Pathognomonic signs are the friability of the tissues of the cervix as the result of the cancerous degeneration and the great tendency to bleeding. Treatment of cancer of the uterus despite the most careful diagnosis has been extremely unsatisfactory. Of a total number of 132 patients under treatment 129 of cancer of the cervix and 3 of the body of the uterus, in only four had the patients come at a time sufficiently early to justify the hope that the operation would be a radical one. Yet in these cases it did not prove to be so. Of 32 cases operated on, the results inclined one to the belief with many operators that the patient's life is never prolonged for more than a few years by any operation for cancer of the uterus, even under the most favorable circumstances.

DR. GILL-WYLIE of New York said: The practical working rule must be in all cases where there is suspicion of the presence of cancer to remove the uterus. It not only does away with the danger as far as is possible, but it relieves the symptoms. Cancer in patients under thirty, he used to think, was unknown, but a recent case with typical cancer of the uterus in an unmarried patient of twenty years of age caused him to change his mind. Despite operation death took place from recurrence shortly after. This seems to be the usual experience, that in the succulent tissues of the young the neoplasm grows very rapidly.

The lives of a large number of patients may be saved, and that there are people alive to-day on whom operations were done for what was surely malignant disease, six, eight, and even ten years ago or more is certain. In order to assure successful operation the diagnosis must be made early. For this microscopic diagnosis is absolutely necessary. For years DR. WELCH, at first while he was here in New York, and later since he has been in Baltimore, has examined the specimens from my cases with excellent judgment. There are certain clinical symptoms that are of very great importance and that the general practitioner especially should bear in mind. If a woman has had her menopause and then after a time begins to bleed, it is extremely probable that cancer is present. If it is more than a year since the last menstruation, then the probability becomes almost a certainty. The longer the intermission the greater is the assurance that cancer is present. If these cases would be sent to us very early they could surely be cured.

DR. HENRY C. COE said: Notwithstanding the advance in uterine surgery operations for cancer of the uterus still remain one of the opprobriums of this branch of modern surgery. Much of this unfortunate feature is due to the fact that cases come too late for operation. Until a foul-smelling discharge sets in palliative treatment is employed and after this it is practically always too late for any hope of a radical operation.

A very interesting feature of irregular hemorrhage from the uterus is the obstinate hyperplasia of the uterine mucous membrane, which causes menorrhagia. This grows again and again despite repeated curettements. I should like to known from Dr. Cullen if he considers this a preliminary stage of cancer of the uterus and whether malignancy develops in these cases later on. With regard to the results of operation for uterine cancer I occupy a middle position between Drs. Wylie and Mundé. While I am not an utter pessimist and think that some cases are radically cured by operation, I known that the cures by no means constitute the majority of the cases. The rule for the surgeon must be in every case of irregular hemorrhage not to allow it to persist, but to investigate its cause and so perhaps be able to nip the neoplasm in the bud.

In closing the discussion DR. CULLEN said: For

cancer of the body of the uterus there are no definite clinical symptoms that can be relied upon. The only hope is in microscopic diagnosis. In the laboratory at Johns Hopkins the specimens from every case that has been operated on since 1893 have been kept. In not a single case has the microscopic diagnosis been at fault. The gynecologists have been keen to detect faulty diagnosis, for sometimes the clinical symptoms have not at all pointed to the fact that a neoplasm existed, but they have failed. With regard to cancers of the body of the uterus the prognosis is very uncertain. Cases that look very unfavorable are sometimes radically cured. The favorable ones sometimes die very soon from recurrence. Cases of cancer of the cervix in young persons are very rare, but still will sometimes be found. Chiari, whose authority is unquestioned, found a case in a girl eight years old. With regard to the cases of recurrent hemorrhage where no cancer exists, there is often a glandular hypertrophy. After a series of curettements the hemorrhage ceases.

The condition in two sisters, one of whom is no longer troubled by menorrhagia, while the other still suffers from it, has been followed with great interest. The microscopic picture of the scrapings in these cases is extremely suggestive. There is a distinct increase of the nuclei in the stroma, but not a sign of malignancy. With regard to the prognosis of cancer of the body of the uterus, it must be remembered that even small nodules give rise to metastases which will lead to recurrence and ultimately to a fatal termination.

Dr. Purdy then gave the authentic details of the case of supposed procurement of abortion which has recently attracted so much attention. The two doctors, of whom Dr. Purdy was one, were so wrongfully accused and put to so much inconvenience, went to the case out of charity at the request of women patients of theirs who asked them to do what they could for the woman. The unwarrantable action of the coroner's physician in causing the arrest of reputable physicians practically without any grounds at all was set forth in its proper light. Dr. Purdy stated that consultation with a lawyer with regard to the question of damages for the injury done him had only resulted in making it clear that such an action could not be successful. He asked whether it was possible that the medical societies of New York would allow our present laws to remain, putting the reputation of every physician at the mercy of any inconsiderate, to use no harsher word, coroner's physician who might care to injure it.

A motion was then adopted referring the matter to the Comitia Minora for investigation as to existing abuses and the legislative remedy therefor.

REVIEWS.

Minor Surgery and Bandaging. By Henry R. Wharton, M.D., Demonstrator of Surgery in the University of Pennsylvania, Surgeon to the Presbyterian Hospital, and the Children's Hospital, etc. Fourth edition. Philadelphia and New York: Lea Brothers & Co., 1899.

The fourth edition of this work has greatly enhanced its value by the addition of a chapter on bacteriology, and by appending a terse description of routine operations that might be exacted of any practitioner. The chapters on anesthesia and fractures are particularly conspicuous for the innovations introduced, yet throughout the book both text and new illustrations manifest a thorough revision, which will go far to widen the sphere of usefulness of this heretofore deservingly popular text-book.

Archives of the Roentgen-Ray. Edited by Thomas Moore, F.R.C.S., Surgeon to the Miller Hospital, and Ernest Payne, M.A., A.I.E.E. Vol. IV., No. 1. Philadelphia: W. B. Saunders, 1899.

Steady progress in clinical skiagraphy, both in practical methods and in the study of underlying principles, as well as an evident widening of its field of usefulness, become manifest on perusal of the latest number of a periodical devoted exclusively to this subject. The high standard established from the first appearance of this publication, then entitled the "Archives of Skiagraphy," has been fully maintained in the interesting matter and excellent press work. The contents include an inquiry into the condition of the styloid process of the ulna in Colle's fracture by J. Lynn Thomas, an analysis of an apparently antagonistic effect of X-rays and daylight upon photographic plates by Norris Woefenden, with shorter articles on the Wehnelt interrupter, methods of localization, and new apparatus. The illustrations are particularly instructive, the plates exceedingly clear and well printed.

Surgery by American Authors. Edited by Roswell Park, A. M., M.D., Professor of the Principles and Practice of Surgery and of Clinical Surgery of the Medical Department of the University of Buffalo. Surgeon to the Buffalo General Hospital, etc. Philadelphia and New York: Lea Brothers & Co., 1899.

This previously comprehensive system of surgery in two volumes has not suffered much in its abridged form, and, if anything, in its present style of one volume it will be more serviceable to medical students and to practising physicians and surgeons as a complete and up to date book of reference. Its strong point must be its main effort in practical surgery, due to the collection of veritable monographs from America's foremost surgeons. That such a system lends itself to the thorough revision of an extensive work is herein evident.

The practical applications of the recent advances in bacteriology and examination of blood receive ample consideration, likewise an entire chapter, illustrated by skiagrams, is devoted to X-ray work. By the addition of many original illustrations and thirty-six excellent colored plates the number of illustrations has been brought up to 625. These commendable features and an additional reduction of price bid fair to make this a very popular treatise on surgery.

ENCYCLOPEDIA MEDICA. Under the General Editorship of CHALMERS WATSON, M.B., M.R.C.P. Ed. Vol. I. Abdomen to Bone. New York: Longmans, Green & Co., 1899.

WERE it not for the faith that begets action, enterprises of this kind would never be carried on. With this, the firs volume, with 579 pages, of a medical encyclopedia, to contain when completed 12 volumes, is begun a systematic alphabetical treatment of the most important medical topics following the general lines of the Encyclopedia Britannica. In a sense this comparison we believe is just, for, as is well known, this English classic treats only the more important topics of general knowledge, leaving to dictionaries or other encyclopedic works the discussion of less important or less widely known matters. The present medical encyclopedia seems to be formed on a similiar plan. The more important subjects of medicine included between Abdomen and Bone are dealt with in a singularly practical and satisfactory manner. Certain differences of opiniona sto what constitutes an important subject will naturally be present for every reader of such a work, thus such topics as acarus, acromatopsia, agaraphobia, albumins, albumoses, alteratives, ameba, auscultation, and anesthesia and analgesia, int their general aspects, are not included, all of which from the present reviewer's point of view could have been added to advantage, and others, interested in different lines of work will find many similar gaps. Such are few, however, if the subject of medicine be viewed from a general standpoint, and we have nothing but unqualified praise for the commercial enterprise that puts such a handy, complete, and authentic reference work in the practitioner's hands. Of the different articles no invidious comparisons need be made, yet we believe that for the most part they are up to the standards of modern medical teaching. T e mechanical execution of the work is excellent. The volume is easily handled and the typography distinct and good sized. Illustrations are few and far between.

INTRODUCTION TO THE OUTLINES OF THE PRINCIPLES OF DIFFERENTIAL DIAGNOSIS, WITH CLINICAL MEMORANDA. By FRED. J. SMITH, M.A., M.D. OXON., F.R.C.P., London. Physician (with care of out-patients) and Senior Pathologist to the London Hospital. New York: The Macmillan Company. London: Macmillan & Co., Ltd., 1899.

THE modesty of the author's title is reflected in his preface in which he says that "very little that is new will be found in the following pages." But his book, nevertheless, has a legitimate excuse for existence even according to his own strict apothegm that in view of the flood of works on medicine and its quasi-special branches that is constantly inundating the hard-worked student and practitioner no addition to it is justifiable unless it either presents something new or a more rational and simpler arrangement of what is old, for he certainly has managed to adequately express in sentences and paragraphs what usually is spread over prolix pages. Recognizing the value of the "deadly parallel" for concisely presenting differential points, especially for pedagogical purposes, he has made his book what is practically an extended series of tables and more than half of the letter press is arranged in this way. In addition to the classical symptoms of each condition the author's wide experience has enabled him in many instances to offer suggestions not the less valuable for being less widely known.

Sections that deserve especial commendation are the introductory chapters on diagnosis in general and the pathology of infection, the discussion of the causes of abdominal pain, and the portions devoted to diseases of the nervous system. But the chapter headed "Urgency Cases" is perhaps the one that will prove most acceptable to the student and young practitioner for the causes and diagnosis of the various forms of coma and convulsions and the symptoms of poisoning from the toxic substances likely to be encountered are brought compactly side by side in the compass of fifteen or twenty pages, and so tersely expressed that a clear understanding of their clinical features is inevitable.

With so much that is worthy of all praise it is to be regretted that the author's style is not always as perspicuous as might be desired, and that in many instances a little more care in the construction of sentences would have made his meaning much clearer.

BACTERIA. Especially as They are Related to the Economy of Nature, to Industrial Processes and to Public Health. By GEORGE NEWMAN, M.D., F.R.S. (Edin.), D.P.H. (Camb.), etc. Demonstrator of Bacteriology, King's College, London. Illustrated. New York: G. P. Putnam's Sons. London: John Murray, 1899.

WHILE the golden prospect of saving ammunition and effort by bringing down two birds at a single shot is equally enticing to gunners of all classes, it is also true that such a hope is seldom realized. And never, perhaps, is disappointment so probable as when the optimistic sportsman endeavors to bag both the layman and specialist by inditing a single volume intended to meet the the widely differing requirements of each. Recognizing this fact, the author wisely disclaims all expectation of a scientific audience and addressing himself to the public has produced a work which admirably serves its purpose of setting forth the present status of bacteriologic knowledge to that large group of readers who, while interested in the advance of science, have not had a technical education. It is, however, both in matter and treatment far above the sort of work ordinarily termed "popular," for even the more intricate and less definite subjects, such as the questions of immunity and infection, the relation of bacteria to health and disease, and methods of technic are carefully and adequately discussed. The chapters on the examination of water-supplies, air, and food-products are well calculated to impress the reader with a sense of the dangers that constantly lurk in his environment, and of the ever-present menace to public health that carelessness in the control of these factors presents. It is daily becoming more evident that the popular understanding of the important relationship between bacteria and hygiene is rapidly growing and the establishment of courses in bacteriology in our higher schools and colleges would be a

great advance toward the attainment of a sanitary millennium. It is more especially for such work, rather than for use in medical colleges, that this would be an eminently suitable text-book. It is bound uniformly with its predecessors in "The Science Series" of which it is the sixth volume, while the imprint of the Knickerbocker Press is sufficient evidence that the illustrations and press work are above criticism.

A TEXT-BOOK OF EMBRYOLOGY FOR STUDENTS OF MEDICINE. By JOHN CLEMENT HEISLER, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. With 190 illustrations, 26 in colors. Philadelphia: W. B. Saunders, 1899.

THE subject of embryology as presented to the student in his text-book of anatomy or midwifery is of necessity relegated to a subordinate position, and in the attempt to crowd the whole topic into the meager compass of a few pages such a degree of concentration and ellipsis follows that many of the links necessary to the comprehension of fetal development as a chain of logical events drop out, and the whole becomes a series of disjointed units. So the student after floundering bravely through this morass of apparently incoherent phraseology usually reaches the other side content with having enriched his vocabulary by many polysyllabic appellations but for ever after to be hampered in his work through a lack of an exact knowledge as to the causative agencies and inter-relationships underlying many of the morbid states he is called on to diagnose or treat. It is with the view of filling out this pedagogical hiatus that the author has given us a book which, avoiding the omissions and deficiencies of the mere chapter-or-so devoted to the subject in text-books whose main business is with other branches, and yet smaller than the voluminous comparative embryologies, is just of the right size to fit into the student's curriculum and supply an adequate quantity of information without involving an impossible amount of reading. That he has succeeded in his undertaking will be evident to every one of his readers, and this is a sufficient index of the value of his work. The illustrations, so important a factor in the utility of a text-book on this subject, are remarkably well chosen and reproduced with beautiful clearness; too much cannot be said in praise of them. In his text the author has followed the admirable plan of describing the development of the various systems in chronological order and of making each chapter complete in itself, which although it necessitates some repetitions greatly increases the convenience of the book for reference. The description of the complex changes attending the development of the peritoneum is especially satisfactory as is also the chapter on the important subject of the formation of the genito-urinary organs. In short, the book is written to fill a want which has distinctly existed and which it definitely meets; commendation greater than this it is not possible to give to anything.

THE TREATMENT OF PELVIC INFLAMMATIONS THROUGH THE VAGINA. By WILLIAM R. PRYOR, M.D., Professor of Gynecology, New York Polyclinic. Illustrated. Philadelphia: W. B. Saunders, 1899.

IN this little volume Dr. Pryor reiterates his well-known views on the aggressive treatment of the inflammatory diseases of the pelvis. Beginning with a consideration of the various forms of endometritis, he details his method of treatment in the various conditions. Although all gynecologists may not agree with his practice of opening the sac of Douglas when a curettage is found necessary in puerperal sepsis, there are, no doubt, cases in which even this preliminary, or, better, precautionary measure, is useful and practicable.

"Pelvic Inflammation" is next discussed, and the succeeding chapters are taken up with a review of the various inflammatory processes. A conservative note is occasionally struck in pointing out the treatment in these conditions when operation is impossible for one reason or another. The description of the ablation of the uterus and appendages is very clear and its comprehension aided by some very good drawings. Whether the vaginal route, as Dr. Pryor thinks, *is* in the direction of future work, remains to be seen. Certainly he has contributed no small share to its popularization.

Dr. Pryor is in favor of uterine ablation in peurperal septicemia when streptococci are demonstrated in the discharge, when the uterine walls are necrotic and when a septicemia is present which will not yield to curettage and "cul-de-sac evacuation." He has, undoubtedly, some supporters in this contention; but all gynecologists and obstetricians will not stand by him at the present day.

There are good chapters on after-treatment and several topics cognate to the main one. The book furnishes very interesting reading and deserves a large circulation.

THERAPEUTIC HINTS.

For Amaurosis and Amblyopia.—

1. When due to syphilis or the action of metallic poisons:

℞ Potassii iod. } aa. . . . ʒ ii
Pepsin (scales) }
Aq. . . . . q. s. ad. ℥ iii.

M. Sig. One teaspoonful in water three times daily after eating. Gradually increase the dose.

2. When of uremic or rheumatic origin:

℞ Tab. trit. pilocarpinæ hydrochlor. . gr. $\frac{1}{10}$.

No. X. Sig. One tablet every three hours.

3. When caused by tobacco, alcoholism, chronic metallic poisoning, or when of the so-called "physiological" type:

℞ Tab. trit. strych. sulph. . . gr. $\frac{1}{30}$.

No. C. Sig. One tablet three times a day at first, increasing dose until mild physiological effects of the drug appear. In case of chronic metallic poisoning give in conjunction with iodid of potassium.

For Gastralgia.—

℞ Chloralis hydrat. . . . . gr. xvi
Sodii hyposulph. . . . . gr. xl
Aq. menth. piper. . . . . ℥ i.

M. Sig. One teaspoonful when indicated.—*Hare.*

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